

ECONOMIC PRINCIPLES IN PRACTICE

BY

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DARTMOUTH COLLEGE

REVISED EDITION

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TO
NELSON LEE SMITH

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PREFACE TO THE REVISED EDITION

In the present edition of this book, as in the first, my main purpose has been to interest the beginner in the elements of economics. To repeat from the preface to the 1939 edition, this means two things: that I have tried to *interest* the reader, and that I have tried to interest him in *economics*. As every teacher of economics knows, there is more or less disharmony between the two. An "economics made easy" is not economics. I have not poured the baby out with the bath by sacrificing the economics. I have only exercised some care not to drown the poor fellow. With this precaution in mind, I have kept principle and practice rather closely connected, and, in the matter of style, I have rejected the heavy disguise which often cloaks the fact that reader and writer are mere human beings. Fully realizing the gravity of my offense, I have even dared to use the American language where it seemed the tongue most likely to be understood. Of course it is for others to judge whether I have used my limited resources to the best advantage. Acting, however, on suggestions offered by numerous users of the first edition, I have made some changes in "allocation."

While illustrative material has been abbreviated somewhat, the changes take mainly the form of a more leisurely exposition of certain topics. To the material dealing with various economic aspects of war—notably in the chapters on war industries, booms and depressions, international "economic" competition, economic inequality, government finance, and "isms"—I have added an entire new chapter on the economics of war power. The former chapter on diminishing returns and costs has been divided into two chapters, the second of which expands the discussion of costs. The material on price and distribution has been revised substantially, and more use has been made of graphs. Two chapters replace one chapter on the structure of demand and supply. Here more attention than before has been devoted to various types of cost schedule, including marginal cost curves, and to the distinction between average revenue and marginal revenue. The discussion of competitive price has been extended to two chapters in order to deal more fully with changes of "normal price." The treatment of rents, wages, interest, and profits has been much expanded. A full-length chapter is

now devoted to each of these subjects, and the earlier chapter on risk has become a part of two successive chapters on risk and profits.

Naturally, the order of appearance of various topics raises a problem which does not lend itself to some one ideal and universally acceptable solution. The material on diminishing returns and costs is a case in point. Its early appearance seems to me justified by two considerations: that the idea of diminishing returns is fundamental to the concept of scarcity on which the study of economics is founded, and that the beginner in economics needs to be aroused as soon as possible to the necessity of careful reasoning. However, it is entirely feasible to proceed from the first chapter in the book directly to the chapters on economic organization, postponing the discussion of diminishing returns to a later point.

In footnotes and reference lists I have tried to acknowledge the works which have proved serviceable to me. Lest I may still have slipped up somewhere, let me say that I lay claim to little originality in subject matter. At numerous points in the revision I have followed, sometimes almost *verbatim*, the lucid suggestions made by B. E. Goetz. Many helpful criticisms were offered also by C. T. Arlt, H. P. Bell, A. S. Carlson, H. W. Davey, Pearson Hunt, John Ise, Jay O'Hara, H. L. Purdy, Warren Roberts, R. S. Vaile, Colston Warne, and W. H. Wynne. With respect to the material repeated from the first edition I wish to reaffirm my obligation to W. A. Carter, J. M. McDaniel, J. L. McDonald, E. R. Sikes, Ashley Wright, and the late R. V. Leffler, for their efforts to protect me from error. I wish to repeat, too, that my debt to my wife, to Ralph Eickelberg, and to the man whose name appears on the dedication page, is too comprehensive to pay or explain.

B. W. K.

Hanover, New Hampshire
March, 1942

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I

THE "INVISIBLE HAND": *FREE COMPETITION*

And while the House of Peers withholds
Its legislative hand,
And noble statesmen do not itch
To interfere with matters which
They do not understand,
As bright will shine Great Britain's rays
As in King George's glorious days.

—W. S. GILBERT, *Iolanthe*

AT A DINNER given at the University of London in June of 1932 the guest of honor was one who had the appearance of a waxen-faced old man. He wore a wide-brimmed straw hat from which silver hair dropped to his shoulders. His white collar was soft and loose; his trousers, tight-fitting. During the entire dinner he ate nothing, uttered not a word, did not so much as move. Yet his conduct disturbed none of the other guests, who ignored the strange figure completely. For in fact he was the dressed-up skeleton of a man who had been dead for just a century; and the purpose of this gathering was to observe the hundredth anniversary of his death.

In his will, Jeremy Bentham, philosopher and economist, had arranged that his body should be dissected in the presence of friends, and the skeleton preserved at University College, London. "My skeleton," the testament ran, "will be caused to be put together in such a manner as that the whole figure may be seated in the chair usually occupied by me when living, in the attitude in which I was sitting when engaged in thought." And it was further provided that at any commemorative gathering the skeleton should be "stationed in such a part of the room as to the assembled company shall seem meet."

Bentham's philosophy during the best part of his life, the idea of securing "the greatest happiness of the greatest number," was hardly less unusual than the whim that marked his life's close. Born in London

in 1748, the son of an attorney, he was said to have read history, and to have begun the study of Latin, at the age of three. Although in his youth he became a brilliant student of law, his ambition to make a political career for himself was never realized. He was unsuited to the give-and-take of politics. Perhaps it was a naturally bashful disposition which made him retiring and exclusive. At any rate, he was eccentric. An American minister, Richard Rush, wrote as follows of a visit to his home in 1818: "If Mr. Bentham's character is peculiar, so is his place of residence. It was a kind of blind alley, the end of which widened into a small, neat courtyard. There by itself stands Mr. Bentham's house. Shrubbery graced its area, and flowers its window sills. It was like an oasis in the desert. Mr. Bentham received me with the simplicity of a philosopher. . . . The company was small but choice—Mr. Brougham, Sir Samuel Romilly, Mr. Mill, author of a well-known work on India, Mr. Dumont, the learned Genevan, once the associate of Mirabeau, were all who sat down to table."

Utilitarianism

Bentham's sensitive nature had been reflected in his reaction to the study of law. The great Blackstone he scored for his "antipathy to reform"—for his tendency to describe the existing legal system as the perfection of human reason. Bentham rebelled at the abuses in the environment of his day. Gradually he matured his theory that the true object of all legislation is "the greatest good of the greatest number." For example, he contended that punishment, since it is an evil in itself, is to be tolerated only in so far as it promises to prevent some greater evil. The general idea of "utilitarianism," as his philosophy was called, was by no means original with him. Rather, his contribution consisted in his remarkable effort to make exact sciences of economics, legislation, and ethics. To be sure, he never succeeded in doing this. And yet it is not fair to say that Bentham failed. His theory, best expounded in his *Introduction to the Principles of Morals and Legislation*, published in 1789, was destined to exert a deep influence upon the whole administrative machinery of government in England and elsewhere.

THE PLEASURE-PAIN CALCULUS

At the basis of Bentham's philosophy was the assumption that human behavior is rational. A "calculus" consisting in measurements of pleasures and pains determines not only what men actually do but also what they should do—provided they are properly educated. Briefly, the theory is this: In order to estimate the amount of happiness or unhappiness which

will result from any action, we begin by estimating the intensity of the sensations to be produced. The unit of measurement is the faintest sensation which we can distinguish as pleasure or pain. We calculate how certain the sensation is to occur, how soon it will begin, how long it will last, what other pleasures or pains it will set up, to what extent a pleasure will be offset by a pain or a pain by a pleasure, and the number of people who will be affected. For each person affected we subtract the total pain from the total pleasure. Finally, we strike a balance for all the persons affected, showing the net sum of pleasure or pain which would be brought to humanity at large by the action we contemplate. By means of such a "pleasure-pain calculus," both individual conduct and public legislation could be directed intelligently to the maximum happiness of mankind.

Bentham's theory is thus reducible to three propositions: First, "pleasure-pain": men are moved wholly by their desire for pleasure and their abhorrence of pain. Second, "rationality": men weigh pleasures and pains in a (more or less) rational way. Third, "greatest happiness": this way of acting not only works best for the self-interest of the individual but leads also to the greatest happiness of the greatest number.

At the outset, the author's confidence in his philosophy ran high. In holding that we are moved by the desire for pleasure, he did not notice that he had practically defined "pleasure" as "that by which men are moved." (From the similar trick of defining "politicians" as "men who understand public problems," it would follow that politicians understand public problems.) He overlooked the fact that men are motivated, not by the desire for pleasure, but by the desire for the things which they think will yield pleasure. The point is illustrated by the boy who cried because, having eaten three pieces already, he did not want any more pie.

The "rationality" principle, too, was the sort of exaggeration to be expected from an exclusive bachelor whose associates were far more rational than the majority of mankind. Only a few men are outstandingly logical, and even these are so only a small part of the time. But Bentham held that men in general are logical about their *economic* interests, and that matters of profit and loss are a large part of all interests. In other respects, he admitted, ignorance often prevents us from pursuing our best interests. This defect, however, he proposed to overcome by education. He believed that the human mind is essentially a passive thing which is developed according to the impressions brought to it from the outside world. By changing this world, and by changing the ways in which people associated its impressions, he would remove ignorance.

THE "GREATEST HAPPINESS"

But it was the "greatest happiness" principle which proved most troublesome to its author—and most interesting to the study of economics. Is it true that the intelligent pursuit by individuals of their own designs makes for the greatest happiness of mankind? In his more idealistic years, Bentham believed firmly that an individual would have to be stupid or perverted if he did not behave with a regard to the greatest sum of human happiness. Later he was beset by doubt. He learned from experience that contempt for the welfare of others is not unusual. He observed that successful politicians do not always make the common weal their sole object. Thus he was led to cast about for support for the principle which upheld his whole social philosophy. In the realm of politics he found no master key to his problem. Here it seemed necessary to use various cunning devices which should make politicians work for the public good in order to enjoy themselves. In economic matters, however, he thought he had found the answer in the "invisible hand" doctrine of a great Scottish economist.

THE "WEALTH OF NATIONS"

Adam Smith brought out his *An Inquiry into the Nature and Causes of the Wealth of Nations* in 1776, a year darkened for Great Britain by the loss of her American colonies. The author, although hating tyranny, was himself an imperialist; but he believed that the British Empire would expand and endure only by permitting the maximum of individual freedom in economic life. Both the time and the man were ready for such doctrine.

The time was ripe because on every hand a new spirit of freedom was arising. In religion, John Calvin's gloomy god of wrath and vengeance was giving way to a benevolent "god of nature." In politics and economics, there were everywhere signs of the crumbling of "mercantilism," a mass of State controls so elaborate that producers could scarcely turn around without being jostled by some petty and ignorant regulation. The complexity of economic conditions was outgrowing the administrative capacity of politicians, and the growth of a strong business class was undermining their influence. Power machinery was being rapidly introduced into the textile industry, and Britain was already in the grip of the Industrial Revolution which was to bring such sweeping changes in manufacture, transportation, commerce, and in virtually every phase of life and culture. Glasgow University, where Adam Smith was

long a teacher, furthered the shake-up by providing James Watt with a shop where he could experiment with his steam engine. The "division of labor," or specialization according to the regions, men, and so on, best suited to making particular products, was developing apace. In France, the "Physiocrats" were adjusting religion to life in a way recalling Voltaire's statement that "God made man in His own image, and lo, man has returned the compliment!" They were propounding as "natural law" a kindly tendency of nature, with God directing it, which would enrich peasant and king alike if only man-made restrictions on trade and labor were removed.

The author of *The Wealth of Nations* was no less ready than the times. To study and teaching he added travel and keen observation as a preparation for this work. After attending school at Kirkcaldy, where he was born in 1723, he studied at Glasgow University, and at Balliol College, Oxford. Following a lectureship in Edinburgh, he returned in 1751 to Glasgow as Professor of Moral Philosophy. Offered the position of traveling tutor to the Duke of Buccleuch in 1763, he left Glasgow on such short notice that he insisted upon returning to his students the lecture fees which they had paid him. On his European tour with the young duke, he visited with Voltaire, with Turgot, famous finance minister of Louis XVI, and with various Physiocrats, including Quesnay. Then, "to while away the time," as he said, he began his economic masterpiece, and worked at it for ten years after his return to Kirkcaldy in 1766. A spot on the wall above the fireplace acquired a gloss because of the author's habit of rubbing his head there as he struggled with his dictation. The book at once became famous, running through five editions before Smith's death in 1790. It was studied and put to use by such statesmen as Fox, Pitt, and Franklin; and Burke declared that it was "in its ultimate results probably the most important book that had ever been written." Certainly it was the father of economic literature, the first comprehensive and systematic work on the subject.

The "Invisible Hand"

The most noted contribution of *The Wealth of Nations* was its attack on mercantilism and its defense of individual enterprise and freedom of trade. Smith contended that although an individual producer may work only for his private gain, yet "he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention."

LAISSEZ FAIRE

The end promoted by the "invisible hand" is the maximum of wealth for the nation whose statesmen have the wisdom to follow the policy of "laissez faire"—of letting men alone in the conduct of their businesses. As a rule, the argument ran, individuals know their own interests better than legislators do, and naturally follow their interests if permitted to do so. To the rule of laissez faire, Smith admitted some important exceptions. For example, State control is necessary for national defense, and for undertakings too costly or time-consuming to attract private enterprise. In general, however, that nation will become most wealthy which allows its people most freedom in pursuing their own interests. We secure real "order," or "system," in economic matters, not by regulating the maximum number of things by rule and law, but by letting alone as many things as we can.

To people brought up on mercantilism, this must have been surprising. An order without anybody in particular giving orders sounded like a contradiction of terms. Even today, those who interpret "economic order" as something like Russia's "planned economy," in which a central planning commission determines in advance the proportions in which thousands of things shall be produced, find the Invisible Hand an incredible doctrine. They speak of American "planlessness," of a conflict in which sellers strive against buyers, laborers against employers, manufacturers and other producers against their competitors—of a sort of war of all against all. And this is not unnatural. Assume that you go, quite uninitiated in the mysteries of economics, into the business district of a city, and try to think about what you see there. As you see the many types of activity in progress, as you note the number and variety of shops, and plants, and clerks, and messengers, and all the traffic that goes with them, you must be disposed to think: "Unless there is a central authority which establishes some proportion among all these things, then this is simply chaos." Yet Adam Smith, and all his followers down to the American President who thought he saw prosperity and "rugged individualism" arm in arm "just around the corner," would assure you that you are wrong on both counts. They would tell you that there is no central planning but that there is order. The order is supposed to be brought about substantially as follows.

INDIVIDUAL EXCHANGE CO-OPERATION

Men produce efficiently by specializing in the production of particular things. In order to specialize they must be able to exchange

products. Otherwise each would have to produce for himself everything he consumed. It is the process of exchange which maintains real "order." Within the limits of his natural aptitudes and the resources at his disposal, each is strongly disposed to produce what he thinks will command most in exchange for the other things he wants. His own wealth depends upon his producing efficiently what others want. Thus he is led by an Invisible Hand to work for the general good. And the Invisible Hand is given amazing reach and flexibility by the fact that exchange is carried out through the medium of money and of its substitute, credit. As Charles Horton Cooley once observed, money does for values what language does for thought: it gives them a means of universal communication. For example, it enables a teacher of economics to trade his knowledge for skis, although the ski merchant has no desire for a knowledge of economics. The system of money valuation regulates on a vast scale not only the production of wealth but also the distribution and consumption of wealth.

Prices, the argument continues, are set by competition. There are numerous sellers and numerous buyers of any given commodity. The competition of the sellers prevents the commodity from selling for more than it should, and the competition of the buyers keeps it from bringing less. Now suppose that a particular article, say steel, becomes relatively scarce, the output being abnormally low or the demand unusually intense. The price rises. The high price checks the *consumption* of steel. It keeps steel out of uses not urgent enough to warrant paying the increased price for it. It also encourages the *production* of steel. The high price makes for high returns, and invites investment into the steel industry. At the same time, it makes the *distribution* of existing wealth more favorable to steel producers. Thus the major economic problems of production, consumption, and distribution are solved without an elaborate and costly system of State intervention.

In rapid outline, such is the case for the Invisible Hand of "free competition" and "free trade." It provides real economic order based on "individual exchange co-operation." Individuals co-operate, even though they may be unconscious of the fact, by the exchange of their various special products. Naturally, this was just the alchemy Bentham was looking for. The Invisible Hand turned the base metal of selfishness into the gold of mutual aid. All that was necessary was that the selfishness should be intelligent. "Enlightened self-interest" was the means to the "greatest happiness" of mankind. It proved an excellent talking point, too, for men who put a less enlightened interpretation on self-interest

than Jeremy Bentham and Adam Smith did.¹ But before we turn to the merits and shortcoming of the theory—and this is much the same as saying, “before we begin the discussion of economic problems in general”—it will be best to consider a few leading propositions in the study of the subject called “economics.”

The Meaning of “Economics”

Economics may be broadly defined as a study of social economy in the production, distribution, and consumption of wealth. To clothe this naked statement with meaning, it is necessary to indicate certain distinguishing characteristics of wealth, of society, and of economy.

VALUE AND WEALTH

Wealth, in the more general sense in which the term will be used in the present study, consists of things having exchange values which can be stated in terms of prices. (Sometimes the term wealth is used in the more special sense of a fund or accumulation of such things existing at a particular time, while the term income is used to signify a flow of wealth over a period of time.) Any value is an expression of comparative worth. To illustrate, you have a certain picture and a certain book. Considered by itself, each is worth something to you. You prize it for your immediate experience with it, for the direct satisfaction which it yields. If you compare the two articles with respect to worth—if, for example, you decide that the picture is worth more than the book—you make a valuation, assign values. Values may be treated as economic values in so far as they are definite, that is, in so far as they express ratios of exchange. But of course definiteness is a matter of degree. For purposes of illustration, take a given grade of shoes and a given grade of wheat. Now suppose a pair of shoes is worth: (1) more than a bushel of wheat; (2) between ten and twenty bushels of wheat; (3) between ten and fifteen bushels of wheat; (4) just ten bushels of wheat. Proceeding through the series, the values of the commodities become more and more definite, the fourth valuation giving us a precise ratio of exchange.

Actually, as we shall see, economic values are established by the exchange of commodities in markets, and they are expressed by money prices. Commodities, or “goods and services” (and in last analysis all goods amount to services), are exchanged for money in some form, and

¹ Smith and Bentham held that the greatest advantage of the individual really lay in honest service and fair dealing. To them, sharp practices, shoddy work, monopolization, political pull, the exploitation of women and children, were not enlightened forms of self-interest. Smith, however, seems to have realized more keenly than did Bentham the need of legislative safeguards against such expressions of selfishness.

money in its turn is exchanged for commodities. The use of money has two general results. First, it facilitates comparisons, and for this reason it has much to do with determining ratios of exchange. Second, it lends definiteness to the expression of values. But there is no sharp dividing line between economic goods, or wealth, and other goods. If an absolutely precise comparison were necessary, few things would have economic value. There is some uncertainty about the value of goods on a dealer's shelves, and still more uncertainty about the value of things like clothes on our backs. If, on the other hand, just any comparison, no matter how crude, were enough, then practically everything having value would be wealth. Friendship would be an economic good, for men sometimes use friendships, and even sell out their friends, to achieve ambitions which they consider "worth the price." It is all a matter of degree. As Edwin Cannan aptly said:

. . . there is no precise line between economic and non-economic satisfactions, and therefore the province of economics cannot be marked out by a row of posts or a fence like a political territory or a landed property. We can proceed from the undoubtedly economic at one end of the scale to the undoubtedly non-economic at the other end without finding anywhere a fence to climb or a ditch to cross.²

Indeed, one of the most important things to be noted and remembered about economics is the very indefiniteness of "wealth." If Bentham's calculus were workable, apparently all values would become so definite that the whole study of human welfare would be the same thing as the study of wealth. As matters actually stand, "economic" welfare is only a part of welfare, and an "economic" problem is merely a welfare problem looked at from a particular point of view.

SOCIAL ECONOMY

The object of *economy*, or "economizing," is to get as much satisfaction as we can with the means at our disposal. The purpose of *social* economy is to make limited resources—limited time, energy, land, and so on—go as far as possible in the satisfaction of human wants. (For better or for worse, economists generally interpret "social" as "national." The first great treatise on economics dealt with the wealth of *nations*, and today the terms "economics" and "political economy" are still used more or less interchangeably.) Social economy differs from individual economy in at least two important respects. First, society being composed of nu-

² Edwin Cannan, *Wealth*, London: P. S. King & Son, Ltd., 1924, pp. 17-18.

merous individuals, social economy is directed to "general" welfare. A policy is unsocial if its benefit to some individuals is exceeded by the harm it does to others. This would be the case if wealth were taken from the poor and given to the rich. Second, society living far longer than individuals do, social economy is directed to "long run" welfare. A policy is unsocial if its present benefit is exceeded by its later injury. This is the case with the wasteful extraction of petroleum. We may now note the general conditions necessary to an effective social economy of wealth.

BALANCED PRODUCTION

First, *products must be turned out in economical proportions*. Even if only two products were made—and of course there are thousands—the problem is to make resources yield products having the greatest *value*. Great changes in demand make this problem acute. In spite of working hard for fourteen hours a day, the average farmer of our Northwest has long had a smaller income than the average hired man. Trade barriers have caused a disastrous decline in the foreign demand for our wheat, and, unless this demand can be revived, resources need to be turned from wheat to something else. The situation is even worse for cotton. A great shift of resources became necessary when "prohibition" curtailed the demand for beer. Anheuser-Busch began to make millions of gallons of ice cream a year. Other breweries turned to the production of cider, sirups, condensed milk, vegetable oils, egg powder, and commercial foodstuffs. The Pabst Brewing Company employed its facilities for such new uses as manufacturing cheese and automobile tires. Wherever productive power is not allocated according to relative demand—wherever any units of resources could be made to produce a more valuable product by putting them to a different use—there is so much bad economy.

EVEN DISTRIBUTION

Second, the wealth must be economically distributed among the different members of society. The outputs of different goods, such as shoes and pleasure yachts, depend on money demand. And the distribution of money demand among different goods depends greatly on the personal distribution of income. A very uneven distribution, leaving some people rich and many poor, makes for a big demand for yachts and a small demand for shoes. In this case, demand itself is uneconomical. A shift of income from rich to poor would help the poor more than it would hurt the rich. It would increase the total satisfaction yielded by the ex-

isting productive resources, because it would transfer resources from luxuries to essentials.

To be sure, this oversimplifies the problem of distribution, since distribution affects not only consumption but production as well. At a later point, two arguments in defense of inequality must be considered: that it is a necessary incentive to production, and that it is essential to the accumulation of capital. For the present, however, it is a safe statement that inequality in the United States could be pared down a great deal without going too far. If income were distributed evenly, 10 per cent of our population would receive 10 per cent of the national income, 20 per cent would receive 20 per cent, and so on. In reality, the poorest 10 per cent get about 3 per cent of the total, the poorest 20 per cent get 7 per cent, and the poorest 30 per cent enjoy some 13 per cent.

GOOD WANTS

Third, it still cannot be supposed that our resources are used economically *unless we want what is good for us*. There are "bad wants" which are not wholly "born into us." They are partly the product of economic and political institutions. With all its virtues, mass production has brought also a triumph of quantity over quality. For example, in Manchester, England, Trafford Park has been given over to industrial plants, flour mills, and warehouses.³ Competition, too, has produced its share of wasteful wants. An enormous mass of our advertising is devoted to creating distinctions without a difference, making us want what we do not need, and even selling us what we do not want. There was point to Addison's story of the man who did a thriving business in pills because he advertised that they were especially good for earthquakes. An almost incredible crop of vicious demand is produced by war. In the World War, England devoted over a million acres to grass land, including lawns and parks, to "war gardens" and grain. When New York City's Mayor Hylan tried to buy about \$8,000,000 worth of materials for schoolbuildings—a sum which would have sufficed to keep the war running for another fifteen minutes or so in 1918—he was told that the demand for schools was not so important as the demand for barracks. Productive power was transferred from phonographs to shells, from sewing machines to shrapnel, from fertilizers to explosives, from dyestuffs to poison gas. As in 1914, so again in 1939, civilization embarked on the wholesale transfer of resources from the arts of peace to the science of killing.

³ C. R. Fay, *Great Britain from Adam Smith to the Present Day*, 1928, p. 159.

EFFICIENT TECHNIQUE

Fourth, the tools and methods of production must be improved. The principle of "diminishing returns," to be studied presently, tells us that output per person tends to decline as population increases. Like Lewis Carroll's famous Alice, we therefore have to run faster and faster in order to stand still. The "state of the arts" has to be advanced to keep the standard of living from falling. Economics considers, not the technical details of engineering, business administration, and the like, but the effects of more general social arrangements on the arts. For example, freedom of trade is said to promote improved methods because it encourages specialization.

STABLE PRODUCTION

Fifth, a reasonably *stable* output is desirable. The Egypt of Joseph's time would have been better off could it have spread the total output of the seven fat years and the seven lean years more evenly over the whole fourteen years. Modern times threaten to outdo ancient Egypt in fluctuations. Changes in demand and methods of production constantly throw industry off balance. At the same time, the rigidity which goes with intense specialization makes it more and more difficult to restore a balance which has been broken. Thus in the United States alone at least thirteen million men were unemployed in 1932.

ECONOMICAL CONSUMPTION

Sixth, the *consumption* of wealth should be economical. Assuming people to want what they should, and to get what they want, it is still necessary that the things produced should not be flagrantly wasted. For instance, it has been estimated that about nine-tenths of America's gas supply is wasted: half of it during extraction, and four-fifths of the remainder when it gets to the consumers. While the details of such wastes may belong to such studies as engineering and "domestic science," the more general problem of disorganization and ignorance among consumers can hardly be evaded in the study of elementary economics.

To summarize: Wealth consists of things whose values can be expressed in terms of prices. The object of a social economy of wealth is a large, well-distributed, stable, and intelligently consumed income of desirable goods. The Invisible Hand is only one of various possible regulators of wealth. Nor is it invisible. It can be seen. The object of our further study will be to look at it more closely.

The Visible Hand

To its enthusiastic supporters—chiefly the rising business class of manufacturers, merchants, and financiers—the system of “let-alone” never meant to let everything alone. It meant to let alone merely the things which they wanted let alone. The rest was not to be let alone until it had been remolded to the heart’s desire of the same class. As the late Will Rogers once dryly observed about “rugged individualism,” the individualists would soon cease to feel rugged if all forms of government help were removed for a while.

PRIVATE PROPERTY

Among the things which the more prosperous people of Adam Smith’s day thought had reached about the right condition for being let alone was “private property.” But this did not really mean that they wanted government to stay out of the matter. On the contrary, private property consists of certain rights which would evaporate without organized enforcement. In the main, it consists of the legally protected rights of individuals to use things exclusively, to lease them, to sell them, and to bequeath them to others. These rights, which have a long historical evolution behind them, have never been “absolute.” Societies have always limited them in one way or another. Otherwise we should be at liberty to torture horses, blow automobile horns half an hour at a time, turn residential lots over to the operation of glue factories, refuse to part with land needed for the construction of roads, and avoid the payment of taxes. When people wished to let private property alone they merely wished to preserve their rights against further limitations.

The visible hand of private property has been a bulwark of the system ushered in by the Industrial Revolution and defended by Adam Smith. Bentham supported it strongly. He granted that it caused an uneven distribution of wealth, and he admitted that immediate satisfaction would be increased by reducing inequality. But he held that without private property, as it existed then, people would not be secure in the possession of wealth, that without security they would not produce, and that without production there would be nothing to distribute. And, although it never meant what its name implied, “laissez faire” contained enough of solid sense to make it the predominant economic and legal philosophy of the Western world. What it advocated may have been, with limitations, the most workable system for the times.

SELF-INTEREST VERSUS PUBLIC INTEREST

But times have changed fast since the later eighteenth century, and the necessary limitations on private property and the pursuit of self-interest have changed with them. Indeed, the new order ran into difficulties at once. It soon imposed intolerable conditions on the laboring class.

The following testimony of a father of two working boys, given to the factory commissioners in 1833, is a sample of the worst conditions:

"My two sons (one ten, the other thirteen) work at Milne's factory at Lenton. They go at half past five in the morning; don't stop at breakfast or tea time. They stop at dinner half an hour. Come home at a quarter before ten. They used to work until ten, sometimes eleven, sometimes twelve. They earn between them 6s. 2d. [about \$1.50] per week. One of them, the eldest, worked at Wilson's for two years at 2s. 3d. [a little over half a dollar] per week. He left because the overlooker beat him and loosened a tooth for him. I complained, and they turned him away for it. They have been gone to work sixteen hours now; they will be very tired when they come home at half past nine. I have a deal of trouble to get 'em up in the morning. I have been obliged to beat 'em with a strap in their shirts, to pinch 'em, in order to get them well awake."⁴

This was in England. In America, in 1831, the Hope Factory of Rhode Island

...rang its first bell ten minutes before sunrise. Five minutes after sunrise the gates were locked against tardy comers, not to open again until eight at night. (A committee of laborers claimed that the employer stretched this horrible "day" by twenty or twenty-five minutes more, by always keeping the factory clock slow.) The only respites from toil during the fifteen or sixteen hours were twenty-five minutes for breakfast and a like period for "dinner"—both meals being cold lunches brought by the operatives. And more than half the operatives were children. This was not an exceptional instance; it was typical.⁵

Thus were employers led by the Invisible Hand to work for the welfare of others. Children "came back from work so worn out that they could not eat their supper. Put to bed with food in their hands, they were found clutching it when they were roused next day. At 4 or 5 A.M. the factory bell sounded, and half asleep they stumbled, or were carried,

⁴ M. M. Knight, H. E. Barnes, and F. Flügel, *Economic History of Europe in Modern Times*. Boston: Houghton Mifflin Company, 1928, p. 396.

⁵ Willis Mason West, *History of the American Nation*. New York: Ronald Press Company, 1929, pp. 483-84.

to work to begin again the unending rush. Factory work—said the opponents of shorter hours—was light and kept the children out of mischief.”⁶

Not merely the problems of labor, but the problems of money and credit, of business organization, of trusts and public utilities, of agriculture, and of public revenues and expenditures testify how much “individual exchange co-operation” lacks of being enough. The problems of economics are substantially the same thing as the respects in which self-interest and private property cannot be let alone. The use of the Invisible Hand doctrine as an excuse for leaving things as they are recalls the use which Thomas Huxley recommended for Alexander Pope’s declaration that “whatever is, is right.” It ought, said Huxley, to be emblazoned in letters of mud over all the pigsties.

PROBLEMS

1. What is the meaning of “economy”? What is the connection between economy and “value”? Illustrate.

2. What is the distinction between “economic” value and “non-economic” value?

3. What is “wealth”? Explain whether the following are wealth: (a) Raw materials owned by a manufacturing company. The company’s reputation for honest dealing. (b) Five dollars’ worth of gold. A five-dollar bill. Shares of stock in a company. (c) The White House. A battleship.

4. Explain and illustrate the main respects in which social economy differs from individual economy.

5. What are the main problems of “economics”?

6. Would you say that the problem of getting people to want what is “good for them” is an “economic” problem? Explain.

7. Defend the proposition that individuals tend to do of their own accord that which is best for society. Attack the same proposition.

8. Has the “economic order,” before or during or after the time of Adam Smith, ever been one of *laissez faire*? Explain.

9. “Undoubtedly,” said Pasteur, “the tiring discussions of politics seem to be our guide—empty appearances. What really leads us forward is a few scientific discoveries and their application.”—Is it possible that production as a whole could be very uneconomical despite highly “scientific” methods of producing each of the many products? Explain.

⁶ C. R. Fay, *Great Britain from Adam Smith to the Present Day*. New York: Longmans, Green & Company, 1928, p. 353.

II

THE "DISMAL SCIENCE": *DIMINISHING RETURNS*

Come, Malthus, and in Ciceronian prose
Show how a rutting population grows,
Till all the produce of the soil is spent
And brats expire for lack of aliment.¹

THE PLIGHT of labor after the dawn of the Industrial Revolution was not the only reason why economics came to be called "the dismal science." A minor reason might well have been the dismal manner of presenting the subject, for to the unavoidable perplexities of economics there were soon added the intricacies of the semimathematical style in which economists frequently elected to deal with their problems. But probably the most important reason for the gloomy term consisted in the dismal conclusions which certain economists reached. The relatively cheerful picture produced by Bentham and Smith had hardly got well dried before another school of artists approached it with somber paints.

Malthus on Population

One of the most shocking changes was produced by Thomas Robert Malthus, whose *Essay on the Principle of Population* first appeared in 1798. The author, then a clergyman, had first put forward his thesis in the course of arguments with his father. The elder Malthus, a country gentleman, had become a follower of Godwin, who is now less known for his socialism than for the fact that his daughter was mated with Shelly. The most spectacular argument employed by the younger Malthus was that socialism would create an insoluble population problem.

POPULATION PRESSURE

Under socialism of the type advocated by Godwin, Malthus argued, parents would not be responsible for the care of their children. As a

¹ Popular English version of Malthusian doctrine cited by F. L. Schuman, *International Politics* (1933), p. 336.

result, population would press heavily on the means of subsistence. The numbers of mankind tend to grow like the series 1, 2, 4, 8, 16, . . . n , whereas food supplies were expansible, at best, only like the series, 1, 2, 3, 4, 5, . . . n . The potentialities of population growth were illustrated by North America where numbers were doubling about every twenty-five years. Before long, all the earth's surface would be peopled to the limit. Then population would be restrained in either of just two ways. There was the "positive" check: the destruction of those already born, by war, famine, pestilence. It could be avoided only by using the "negative" check: keeping down the birthrate by virginity, late marriage, self-restraint within wedlock. And socialism was just the arrangement to prevent the operation of the negative check. Indeed, the Snake of Eden seemed on the threshold of the climactic triumph: the perpetual misery of mankind.

DIMINISHING RETURNS

The work of a Scottish student, Sir Edward West, led to a refinement of this doctrine, but without relieving its gloom. Malthus lacked any clear-cut principle to defend his proposition that human beings tend to multiply faster than food. As far as the biology of reproduction is concerned, man's food, since it is derived from plant and animal life, *tends* to multiply in geometrical progression. Malthus met this difficulty merely by pointing out that actual experience with agriculture showed nothing more than a comparatively slow improvement in yield per acre. West was more precise. He formulated a definite principle, the principle of "diminishing returns." The application of increasing amounts of labor and capital to a fixed area of land tends to bring about only a *diminishing rate of increase* in the output. Thus, a point is sooner or later reached where a 10 per cent increase in the number of men tilling the land will not increase the output as much as 10 per cent. When this stage is reached, although there is an increase in the output per acre, there is a decrease in the output per man.

The principle of diminishing returns merely strengthened the doctrine of Malthus by clarifying it. Without marked improvement in the arts of production, a continued growth of population must bring hardship to a world having a limited amount of land. Resort to the use of inferior lands would only retard but would not stop a progressive decline in the output per person. Eventually this output, unless population were "negatively" checked, must become so small as to bring the majority of mankind down to a level of mere subsistence. Here a further increase

would be prevented by the "positive" check of undernourishment, high infant mortality, epidemics.

THE "IRON LAW"

From this advanced outpost of gloom a brilliant London stockbroker, David Ricardo, stepped farther into the thickening darkness. He formulated what is called "the iron law," or "the brazen law," of wages. To laborers the iron law held out the prospect of living perennially at something like the subsistence level just now described. If wages somehow got substantially above this level, the laboring population, temporarily escaping from the "positive" check, would forthwith expand itself enough to get back to its natural level. As for landlords, no doubt an increase of laborers would raise the rate of return on land.

"SURPLUS" POPULATION

Even among eminent men there have long been sharp differences of opinion about "surplus population." Malthus would no doubt find many confirmations of his fears today. In Puerto Rico, more than 1,500,000 people live on some 3,500 square miles of territory, making about 450 persons to the square mile. Of the arable land, which is scarcely one-fourth of the total, every square mile must support 1,800 persons. The per capita wealth—not the annual income—is approximately \$230; and the average native laborer, who must work 12 to 15 hours a day to get 60 or 70 cents, is too poor to furnish his home, to educate his children, or even to guard against hookworm by the purchase of shoes. In the wheat-growing areas of Shantung, China, population density runs from 1,800 to 3,000 per square mile. It is estimated that more than a tenth of China's 450,000,000 people are in or near a state of starvation. Here the law of Malthus, that "the power of population is infinitely greater than the power in the earth to produce subsistence for man," seems to operate with telling effect.

Joseph Stalin, on the other hand, appears to have little fear of excess numbers, despite the fact that in Russia some 3,500,000 are added yearly to a population already exceeding 180,000,000. To good communists, the idea of surplus population is a prejudice existing in minds corrupted by that shoddy social arrangement known as "capitalism." In Russia, where Planned Economy is to develop production without limit, there is no occasion for such a prejudice.

Mussolini, in his turn, has accomplished the singular feat of having it both ways at once. There is not enough population, and yet there is surplus population. "In disciplined, enriched, cultivated Italy," he has

said, "there is room for 10,000,000 more men. Sixty million Italians would make their weight felt in the world." In 1932 Il Duce sought to encourage marriage by directing the railways, all owned by the State, to allow a discount of 80 per cent to all honeymooners who bought tickets from any point in Italy to Rome. Various cut-rate excursions to outside resorts have also been operated for the benefit of poor couples wedded in the Eternal City. So pressing, at the same time, is the problem of surplus population that territories have been seized as outlets. To escape a contradiction between the two positions, it is only necessary to interpret national greatness in terms of military might. To be mighty, Italy needs a population pressure which will cause Italy to conquer territory where more and more Italians can remain Italians. Vauban once declared that "the number of their subjects measures the grandeur of kings"; and Napoleon expressed the same ideal when to Madame de Staël's inquiry as to the greatest woman of all time he replied, "She, Madame, who furnished most cannon-food at her country's need."²

Considered as an economic problem, and not merely as a problem of establishing the predominance of some nationality, race, or creed, the problem of surplus population will be better understood when the theory of diminishing returns has been studied more carefully.

Diminishing Returns

There is no doubt about the reality of diminishing returns. If there were no such thing, the problems of economics would be altogether different, if, indeed, they existed at all. There would be no difficulty about producing all the world's food on a single acre of land. Population could not be excessive. Its increase could not enrich landlords or impoverish laborers. It could not make land command a rent, or decrease the output per man. The whole character of costs, exchange values, and prices would be revolutionized.

DIMINISHING RETURNS IN AGRICULTURE

As we have seen, the principle of diminishing returns was first worked out with reference to agriculture. Even modern statements emphasize this particular aspect of it. Thus, a noted British economist, Alfred Marshall, has said:

... although the capital and labor already applied to any piece of land may have been so inadequate for the development of its full powers, that some expenditure on it even with the existing arts of agriculture would give a more than proportionate return; yet these conditions are rare in an old

² Edward M. East, *Mankind at the Crossroads* (1923), p. 51.

country; and except when they are present, the application of increased capital and labor to land will add a less than proportionate amount of the produce raised, unless there be meanwhile an increase in the skill of the individual cultivator.³

To simplify this statement greatly: As you apply increasing amounts of labor and capital to a piece of land, you soon reach a point where a further application of, say, 10 per cent will not increase the output by as much as 10 per cent. If we are in any doubt about this, a review of a number of actual experiments in agriculture should convince us.⁴

As early as 1771, Arthur Young demonstrated in England that additions of fertilizers yielded diminishing returns of oats per unit of fertilizer. More than a certain amount of fertilizer on a given area of land caused an actual subtraction from total output. This was found to be true also of wheat. Experiments conducted over long periods of years by agricultural experiment stations in Pennsylvania and Ohio produced the same conclusions. In all these cases diminishing returns set in at an early stage of the increasing intensity of fertilization, and an absolute decrease of output was encountered when fertilization was pushed beyond a certain point. The Utah agricultural experiment station arrived at similar results when it applied increasing amounts of irrigation water to land in the production of potatoes. The Ohio station showed that, after a certain point, diminishing returns is the outcome of increasing the amount of seed per acre in the growing of wheat and corn.

The results are perhaps even more striking in the case of cultivation. Crops cannot be increased indefinitely by increasing the number of times a field is plowed, harrowed, weeded, and so on. In 1898 the Arkansas station showed that rapidly diminishing returns in wheat is the effect of increasing intensity of cultivation. Stations in Kansas and Ohio proved that carrying the number of cultivations beyond two or three either actually injures the output of corn or else improves it only slightly.

Experience has been no different in the feeding of livestock to increase the output of meat, milk, and so on. The Illinois station divided sixteen two-year-old Holstein steers into four equal groups, and over a period of weeks fed the different groups rations which had the same composition but differed in amount. Returns per unit of feed diminished for all the groups after that which received the smallest ration. Further, as animals grow there is a natural decline in the rate of growth, so that

³ *Principles of Economics*. New York: The Macmillan Company, 6th ed., 1910, p. 153.

⁴ The cases cited are those reviewed by F. Lester Patton, *Diminishing Returns in Agriculture*, 1926.

the second hundred pounds of increase in weight requires more feed than the first hundred, the third more than the second, and so on. This was demonstrated for steers and hogs by the stations in Kansas and Ohio, respectively. The station operated by Cornell University got the same result by increasing the amounts of feed used to increase the output of dairy cows.

IMPORTANCE OF DIMINISHING RETURNS

But the operation of diminishing returns is not confined to agriculture. Experiments reported by Jules Amar in 1920 showed that increases in the amount of energy expended by a man in walking cause less than proportionate increases in speed. This was demonstrated also for draft horses. Similar results were obtained by increasing the speed of an internal-combustion motor to increase the power generated. Up to a certain point, increases in speed caused increasing returns in power; after this point, they caused rapidly diminishing returns. In fact, these general tendencies operate wherever some agents of production are relatively fixed in amount and others are relatively variable.

Diminishing returns is a reality of such vital importance to the problem of population, the problem of wages, the problem of prices, and, indeed, to virtually every problem of economics, that a rudimentary knowledge of it is necessary to the intelligent discussion of public affairs. An understanding of its really essential principles can probably be gained by considering the following six propositions. Although not designed for "hammock reading," they require no more than careful attention and the use of ordinary arithmetic. (1) Some agents of production can be increased or decreased more easily than others. (2) The result is nonproportional returns, one phase of which is diminishing returns. (3) In practice, production is usually confined to the stage of diminishing returns. (4) The product imputed to a unit of any agent of production is the marginal product of this agent. (5) The diminution of returns in any particular business or industry affects the unit cost of the product. (6) The operation of diminishing returns over industry at large affects the values of the different agents of production.

Fixed and Variable Agents of Production

In farming, the quantity of hired help and fertilizers can be varied more readily than the amount of land, buildings, and machinery; gasoline more readily than tractors; feed more readily than livestock. On a railway, common labor and fuel are more flexible than rolling stock, terminals, right of way, skilled labor, and management. In a factory, raw

materials, power, and routine labor are more elastic than equipment and the more intensively trained types of skilled labor.

The variability of an agent is largely a matter of mobility from industry to industry. Mobility may or may not involve physical movement. As the demand for automobiles increases, laborers move physically into Detroit, but at the same time the industry expands to absorb land which does not move. Again, automobile workers may be increased without transferring laborers from other employments. Thus, children who are just reaching the working age may be directed into the industry. Intense specialization makes agents less mobile. A machine which can only sew shoes, or a laborer who can only operate that especial machine, cannot be transferred to the automobile industry. To get the corresponding capital and labor into another industry, it is necessary to wait until they "wear out" and can be replaced by other types. The variability of an agent depends also on the amount needed. The larger this amount, the harder it is to transfer the required amount from other occupations. If the demand for wheat alone increases, a 10 per cent increase of wheat land may be easy to effect by transferring land over from corn or oats. But it would be much more difficult to increase by 10 per cent the land used for all cereal grains together.

Nonproportional Returns

To simplify the results of the experiments reviewed above, assume that in growing wheat the supply of labor can be varied at will but that the amount of land is rigidly fixed. Then if we begin with a very low ratio of labor to land, and continually increase the amount of labor, the effects on output will fall into three stages.

In the first stage the increase in labor increases the output more than proportionately to the addition of labor. Thus 10 per cent more labor increases the crop more than 10 per cent. Dividing the total output resulting from each combination of land and labor, first by the number of units of land, and then by the number of units of labor, we find this: The *average* outputs of both land and labor are increasing. This is the stage of *increasing returns* to labor.

In the second stage, successive applications of 10 per cent more labor continue to increase the total output, but by less than 10 per cent. The average output of land, or the output per acre, still increases; but the average output of labor, or output per laborer, declines. This is the stage of *diminishing returns* to labor.

In the third stage, further additions of labor absolutely subtract from

the total output. The output per acre as well as the output per man falls off. This is the stage of *absolutely diminishing returns* to labor.

Two facts should now be emphasized. The illustration we have used merely indicates what happens throughout industry in general. The expression "labor" therefore signifies any relatively variable agent of production, and the term "land" implies any relatively fixed agent. Further, as will appear shortly, the second stage of operations is the one of chief practical importance. Accordingly, the *principle of diminishing returns* may now be stated in general terms: *As increasingly large amounts of a variable agent of production are applied to a fixed agent, there is eventually reached a stage in which further increases in the variable agent, unless they coincide with improvements in the methods of production, yield less than proportionate increases in output.*

The operation of diminishing returns is illustrated on an enormous scale by American history. As population increased, it overflowed in successive west-bound waves into new regions, where the returns per man were higher. In general, hunters and trappers led the van. To them, a comparatively sparse population was congestion. When neighbors settled within a mile or two of him, Daniel Boone complained that he had no elbow room in Kentucky, and he pushed on to Missouri. After the hunters and trappers, followed the miners and frontier cattlemen; and after them came the homestead farmers, tradesmen, and manufacturers. In the great Mississippi and Missouri valleys, land was long so plentiful that diminishing returns scarcely made itself felt. Of the significance of this fact Taussig says:

No economic and social situation of this kind has ever before appeared in the world's history. Land in plenty, no density of population, the labor power spread thin over the land, an agricultural output large per unit of man-power but not large per unit of area; farms large in acreage, and capitalistic production (in the sense that much machinery is used); the labor of agriculture done mainly by the owners of the soil; no sharp cleavage between land owners and land workers; little inequality in economic and social status, a high general level of prosperity; a landed class not rich and not poor, not highly cultured but far from inert or dull. The phenomenon is unique in history.⁵

It is unique in history. And now it belongs to history. Even the absence of classes and class struggle is a passing phase of nonproportional returns.

⁵ F. W. Taussig, *International Trade*, 1927, p. 182. By permission of The Macmillan Company, publishers.

Production in the Stage of Diminishing Returns

The bad economy of operating outside the stage of diminishing returns may be explained by emphasizing the fact that the three stages of operations depend on the *relative* amounts of the agents of production which are combined. In order to emphasize this fact, it will be worth while, in spite of some repetition, to make a restatement of nonproportional returns. To illustrate, let us use again our simplified example of uniformly good labor and uniformly good land producing wheat. We are dealing with continuously changing proportions between labor and land, and these changing proportions are divided into three stages, or zones, by two boundaries.

If we require a laborer to farm a very large piece of land, weeding and cultivation are not thorough and the product is small. There is too little labor per acre, or too much land per laborer. If we increase the amount of labor or reduce the amount of land, the total product increases, so does the product per acre, and so also does the product per laborer. This end zone is the zone of increasing returns to labor or absolutely diminishing returns to land. As the ratio of labor to land is very low, the ratio of land to labor is very high. If we continue to increase the amount of labor or reduce the amount of land, a ratio is finally established, between labor and land, at which the output per laborer reaches a maximum. This ratio is the boundary between the zone of increasing returns to labor and the middle zone, or the zone of diminishing returns.

If we now further increase the amount of labor or further reduce the amount of land, the product per acre continues to increase, but the product per laborer decreases. This is the zone of diminishing returns. By continuing to increase the ratio of labor to land, we come to a point where the return per acre of land reaches a maximum. Here is the second definite ratio, or the second boundary, which divides the middle zone from the other end zone.

If we still persist in raising the ratio of labor to land, thus going beyond this second boundary, the total product diminishes, the product per laborer continues to decline, and the product per acre of land falls. We are now in the zone of absolutely diminishing returns to labor or increasing returns to land.

When the significance of proportions is grasped, it becomes clear why operations in the zone, or stage, of increasing returns to labor are as uneconomical as operations in the zone of absolutely diminishing returns to labor. In the latter zone the total product is diminished by having *too much labor*, that is, by having too high a ratio of labor to land and

hence too low a ratio of land to labor. In the former zone the total product is diminished by having *too much land*, that is, by having too high a ratio of land to labor and hence too low a ratio of labor to land. There is no doubt about the bad economy of leaving the stage of diminishing returns in either direction. The practical question is whether this can be avoided.

Ordinarily it can be avoided by simply declining to use too much of any agent of production. If one who has a limited amount of land were permitted to use free of charge as much penitentiary labor as he liked, he would stop adding labor where additions ceased to increase output. During colonial days, the situation was the opposite of this. It was land which was superabundant in America. Therefore the colonists left most of the continent idle. The Dutch patroons had immense estates stretching either way from the Hudson River, but they made no attempt to farm all the land. Had they done so, labor would have been using land in the stage of increasing returns. That is to say, land would have been utilizing labor in the stage of absolutely diminishing returns. Whichever way the case is put, the point is that the total output would have been decreased by forcing operations outside the stage of diminishing returns. There may be extreme cases, such as profound depressions, in which agents like manufacturing plants are operated in the first stage. But producers always try to avoid such a situation, and normally they can do so.

Marginal Productivity and Imputation

When two or more agents of production work *together* in the stage of diminishing returns, how much of the total product of the agents does *each* agent produce? A reasonable answer is provided by the principle of *marginal productivity*, or *imputation*, a corollary of the principle of diminishing returns. To deal with this principle simply, let us take a hypothetical case. We have an individual producer who uses just two agents, uniformly good acres of land and uniformly good laborers, in the production of wheat. As indicated by the accompanying table, there is a fixed amount of land, "10 acres," but the labor force is variable. For convenience, the table is so arranged that the first combination of land and labor is the end of the stage of increasing returns and the second combination is the beginning of the stage of diminishing returns. Similarly, the next to last combination is the end of the stage of diminishing returns and the last is the beginning of the stage of absolutely diminishing returns. Suppose that the fifth combination, or 10 acres and 13 laborers, is the one which is actually used. Then the *marginal product*

ACRES OF LAND	NUMBER OF LABORERS	TOTAL PRODUCT (BU.)	AVERAGE PRODUCT PER LABORER (BU.)	MARGINAL PRODUCT PER LABORER (BU.)
10	9	900	100.0	—
10	10	1,000	100.0	100.0
10	11	1,089	99.0	89.0
10	12	1,164	97.0	75.0
10	13	1,222	94.0	58.0
10	14	1,260	90.0	38.0
10	15	1,275	85.0	15.0
10	16	1,275	79.7	0.0

of labor is 58 bushels. That is to say, 58 bushels is the amount by which total output would be increased by raising the labor force from 12 to 13 or decreased by reducing the labor force from 13 to 12.

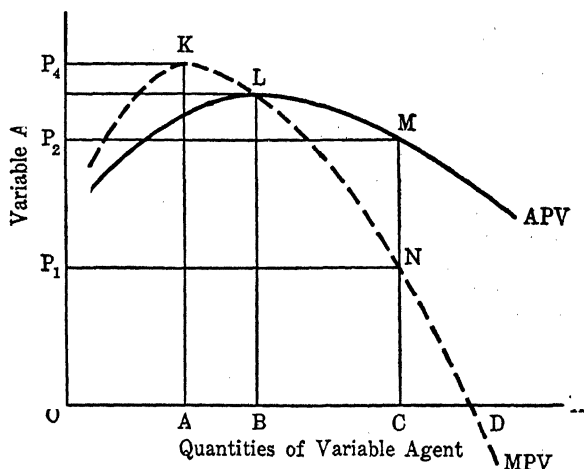
Now it is reasonable to say that the output of a unit of labor is the same as the marginal product of labor, because that is what actually would be lost by parting with one unit of labor. Accordingly, in our arithmetical illustration, the output *per laborer* is 58 bushels if 13 laborers are used, and the output of all the labor is 13 times this much, or 754 bushels. Subtracting 754 bushels from the total product of 1,222 bushels, we find that the output of the land is 468 bushels for the 10 acres, or 46.8 bushels an acre. (Or the problem could be solved by first finding the marginal product of the land and then getting the product of the labor by subtraction.) Assume that wheat commands \$1.00 a bushel. Then to our individual farmer, for this crop season, the value of one laborer is \$58.00 and the value of one acre is \$46.80.

It will be noted that the marginal product of the variable agent, labor in this example, falls throughout the stage of diminishing returns. Further, the marginal product of the variable agent falls faster than the average product of this agent. When, for example, we add the 13th laborer, the marginal product of labor falls from 75 to 58 bushels, a decline of 17 bushels, while the average product of labor falls from 97 to 94 bushels, a decline of only 3 bushels. Clearly the marginal product—the product added by the next laborer—must be less than the existing average product in order to pull the average down. This follows from the nature of an average. Suppose, to use a cruder but more familiar illustration, that your average grade on past hour examinations is 85. Then the grade on your next examination must be less than 85 in order to reduce the average, and it must be less than 84 in order to reduce the average to 84.

The relations between the average product and the marginal prod-

uct of a variable agent are more fully illustrated by the accompanying graph. Quantities of the variable agent are measured along the horizontal axis OX , increasing toward X . Products of the variable agent are measured along the vertical axis OY , decreasing toward O . With increases in the quantity of the variable agent, changes in the marginal product are indicated by the dotted line MPV , and changes in the average prod-

Average Product and Marginal Product



uct are indicated by the solid line APV . The marginal product rises until the quantity of the variable reaches OA , falling thereafter. The average product, on the other hand, continues to rise until the quantity of the variable reaches OB . The average product cannot fall until the marginal product is less than the average. Marginal product and average product are equal where the quantity of the variable agent is OB . This is the point of diminishing returns. The point of absolutely diminishing returns is reached where the quantity of the variable agent is OD . Here one (infinitesimally small) unit of the variable agent has added zero to the total product, and any further increase in the quantity of the variable agent would absolutely decrease the size of the total product. Suppose that OC quantity of the variable agent is actually applied to the fixed agent. Then the average product is OP_2 , and the total product (of fixed and variable agents combined) is OP_2MC . At the same time the marginal product of the variable agent is OP_1 , making the total product imputed to the variable agent OP_1NC . Hence the total product imputed to the fixed agent is OP_2MC less OP_1NC , or P_1P_2MN .

PROBLEMS

1. Describe the Malthusian theory of population.
2. State the principle of diminishing returns. Explain how the statement of this principle tends to clarify the Malthusian theory.
3. Discuss this statement: "We need not fear overpopulation, since each mouth which comes into the world is accompanied by a pair of hands, since 'at life's banquet table the guests are also cooks.'"
4. Our 1910 census showed that, as a result of heavy immigration, one-third of our white population was either foreign-born or born of parents who were foreign-born. Did such immigration tend to lower the standard of living in the United States? Explain.
5. Show that the principle of diminishing returns applies to much more than the population problem alone.
6. Assume that an individual producer is using equally good units of land and equally good units of labor to produce a single commodity.
 - (a) Explain why the producer will try to combine his agents of production in such a way as to operate in the stage of diminishing returns.
 - (b) Explain what is meant by the marginal product of the land and of the labor, respectively.
 - (c) Why is not the product of one unit of land equal to the total output divided by the number of units of land?
 - (d) Why is the marginal product of an agent of production said to be imputed?
 - (e) What is the practical importance of learning the marginal products of different agents?
 - (f) How is our problem changed if we assume that there are three productive agents instead of two?
 - (g) How is our problem changed if we assume that each of the productive agents, instead of consisting of equally good units, consists of two or more different grades of units?

REFERENCES

See references at the close of Chapter III.

III

THE "DISMAL SCIENCE": *DIMINISHING RETURNS* *AND COSTS*

Science finds out ingenious ways to kill
Strong men, and keep alive the weak and ill—
That these a sickly progeny may breed,
Too poor to tax, too numerous to feed.¹

THUS FAR WE have dealt with diminishing returns simply as a physical phenomenon. We have discussed the fact that the combination of increasing amounts of any physical agent of production with a fixed amount of any other agent gives rise to nonproportional physical returns, one phase of which is diminishing returns. Even in considering why the producer tends to confine operations to the stage of diminishing returns, it has not been necessary to ask what prices the producer has to pay for the services of different agents: regardless of the prices, it would be bad economy to operate outside this stage. In the present chapter, however, we turn to the connections between diminishing returns and costs of production. First we take given prices for the services of different agents and consider the relation between diminishing returns and the unit cost of a *single* product. Next we deal with the relation between diminishing returns and the prices which the producers of *all* products must pay for the services of different agents. In conclusion, we take account of the fact that improvements in the arts of production greatly modify the practical consequences of diminishing returns.

Diminishing Returns and the Unit Cost of a Particular Product

Writing to an agricultural specialist in England, George Washington said: "An English farmer must have a very indifferent opinion of our American soil when he hears that an acre of it produces no more than from 8 to 10 bushels of wheat; but he must not forget that in all countries where land is cheap and labor is dear people prefer cultivating much to

¹ Popular English version of Malthusian doctrine.

cultivating well." Though not pretending to be an economist, Washington clearly suggested the effect of diminishing returns on costs.

LEAST COST

Suppose that American land, instead of being merely cheap, had been altogether free, and that the same thing had been true of English labor. Then the American farmer, his sole cost being labor cost, would have sought to operate where the output *per laborer* was greatest. This would have been where the output per laborer was just on the point of beginning to decrease. Thus the lowest cost per bushel would have been at the point of diminishing returns, which would have been the least-cost point under the circumstances. But the English farmer, his only cost being the land cost, would have sought the maximum output *per acre*. This would have been where the yield per acre was just on the point of beginning to decline. In other words, the least-cost point would have been at the point of absolutely diminishing returns.

Of course this was not the precise situation. American land and English labor, instead of being free, were only cheap. Thus for both American and English farmers the least-cost point lay, not at either extreme end of the stage of diminishing returns, but somewhere within this stage. Nevertheless, land was cheaper and labor dearer for Americans than for Englishmen. The result was that the combination of labor and land giving the lowest bushel cost lay *closer* to the point of diminishing returns in America than in England. Hence Americans combined more land with labor than Englishmen did. They preferred "cultivating much to cultivating well." They preferred extensive to intensive cultivation. It was the way to make farming pay in America.

It remains to note the behavior of cost of production as output is expanded by going farther into the stage of diminishing returns. Let us use again the hypothetical case which was employed to illustrate marginal product. We need not consider what determines the prices which our individual producer must pay for using agents of production. Rent *per acre* and wages *per laborer* are not appreciably affected by diminishing returns in the particular business enterprise. But rent and wages *per unit of product* are changed. We are now to consider, first, changes in *average cost* per unit of product, and, second, changes in *marginal cost*.

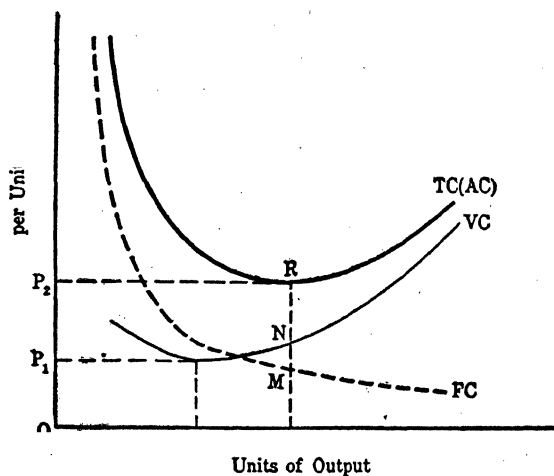
VARIATIONS OF AVERAGE UNIT COST

For any given output *average cost* is equal to total cost of production divided by the number of units of product. In the case of our indi-

vidual wheat producer, the behavior of average cost per bushel depends on changes in labor cost (wages) per bushel and land cost (rent) per bushel. The wages cost per bushel rises because wages per laborer remain constant while output per laborer keeps falling. The rent cost per bushel falls because rent per acre remains constant while output per acre keeps rising. Until the point of least cost is reached, the average bushel cost (the sum of wages cost per bushel and rent cost per bushel) decreases, for the reason that the rent cost per bushel falls faster than the wages cost per bushel rises. Here we have *decreasing cost*. Afterward, the average bushel cost increases, since the wages cost per bushel rises faster than the rent cost per bushel falls. Here we have *increasing cost*. All this applies, not merely to farming, but to any branch of production. To apply it we need only substitute more general terms. "Bushel" cost becomes *unit* cost. "Labor" cost becomes *variable* or *out-of-pocket* cost. And "land" cost becomes *fixed* or *overhead* cost.

In describing such changes, the language of words and numbers finds a useful ally in the graph. Costs for an individual producer of a single commodity are represented by the accompanying graph. Output

Variations of Average Unit Cost



is measured along the horizontal axis, or quantity axis, OX , increasing toward X . Cost per unit of output is measured along the vertical axis, or price axis, OY , increasing toward Y . Fixed cost per unit of output (average fixed cost) is represented by the dotted curve FC ; variable cost per unit of output (average variable cost), by the lightly-drawn curve VC ;

and total cost per unit of output (average total unit cost), by the heavily-drawn curve TC (AC). (In subsequent graphs, the curve of average total unit cost will be designated AC , to signify average cost.) Average total unit cost is the sum of average variable cost and average fixed cost. For example, where the output is OL , the average total unit cost, OP_2 (or LR), is the sum of average variable cost, LN , and average fixed cost, LM . The stage of diminishing returns is reached where the average variable cost is lowest, that is, where the output is OK . Average total unit cost, however, continues to fall until it reaches the minimum, OP_2 , where the output is OL .

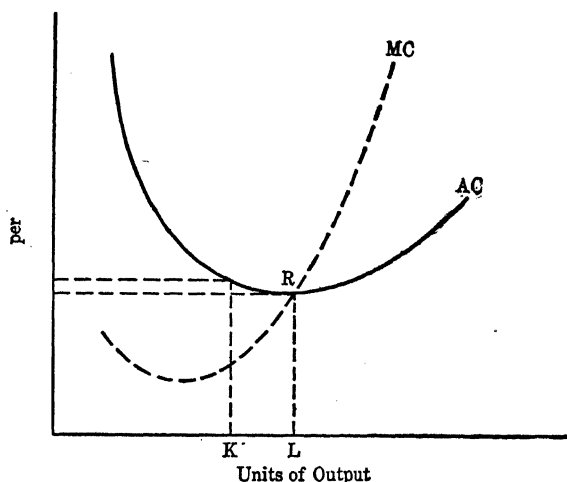
VARIATIONS OF MARGINAL COST

Marginal cost, for any given output, may be described in either of two ways. First, it may be described as the unit cost of the marginal product—the total cost of the marginal product divided by the number of units of this product. To illustrate: The monthly marginal product of 13 men is 58 fountain pens, and monthly wages are \$116 a man. In other words, total cost would be \$116 less and total product 58 pens fewer if one man were withdrawn. Thus the total cost of the marginal product is \$116, and the unit cost of this product is \$116 divided by 58, or \$2. If we push operations deeper into the stage of diminishing returns by increasing the number of men to 14, 15, and so on, there is a continual decline of the marginal product—the product per man. Second, marginal cost may be described as the amount by which total cost would be changed if the output were decreased by one unit. To illustrate: If the cost of producing 1,000 pens a month is \$2,000, the cost of 999 pens would be \$1,998. In other words, the marginal cost, for an output of 2,000 pens, is \$2. If we push operations deeper into the stage of diminishing returns by increasing the output of pens to 2,001, 2,002, and so on, there is a continual increase in the amount of labor per pen. In the first case, as we expand total output, the product per laborer falls. In the second case, as we expand total output, the labor per unit of output rises. But in either case, whether we think of pens per laborer as falling, or of labor per pen as rising, it is clear that marginal cost is increasing.

Continuous variation of both the variable productive agent and the marginal product is best described by means of a graph. In the graph below variations of average cost (average total unit cost) are represented by the U-shaped curve AC , and variations of marginal cost by the curve MC . An output of OK brings us to the stage of diminishing returns; an output of OL , to least unit cost, or OP_1 . Thus OK and OL are the same as they were in the graph on page 33. Marginal cost rises

throughout the stage of diminishing returns. Marginal cost is lower than average cost for any output smaller than OL , where average cost is decreasing; it is higher than average cost for any output larger than OL , where average cost is increasing; and therefore it is equal to average cost for an output of OL . This follows from the fact that average cost means total cost divided by the number of units of the total product, while marginal cost means the change of total cost caused by producing the

Average Cost and Marginal Cost



marginal product. Let us again use examination grades to illustrate the difference between average and marginal. Suppose your average grade (total divided by number of examinations) is 85. Now your marginal grade (grade on your next examination) must fall short of 85 in order to lower the average, and it must fall short of 84 in order to lower the average to 84. Likewise, your marginal grade must exceed 85 in order to raise the average, and it must exceed 86 in order to raise the average to 86. Essentially the same relations exist between average cost and marginal cost. At the point of least average cost, R , average cost is neither falling nor rising, and therefore average cost and marginal cost must be equal at this point.

DIMINISHING RETURNS AND OPPORTUNITY COSTS

If the American farmer of Washington's time found land cheap and labor dear, the basic reason was the relative abundance of land and the scarcity of labor. In this situation marginal productivity was high for

labor and low for land. A few pages ago we dealt with the principle of marginal productivity, or imputation, from the point of view of the individual producer. But now it should be observed that the values of the different agents of production are affected by the operation of diminishing returns throughout industry at large. In so far as producers in general compete freely for the use of agents, the use of a given agent costs any particular producer what it is worth to producers as a whole, and it costs the producers of any one commodity what it is worth in the production of commodities in general. To show what is meant by this proposition, commonly called the principle of *opportunity costs*, let us go back to the case of our individual wheat farmer as a beginning.

As we are to deal with more than one commodity, and must therefore interpret products in terms of value, we shall suppose that wheat commands \$1.00 a bushel in the market. Assume for the time being that our farmer uses 13 laborers and 10 acres of land. In terms of wheat, marginal product is 58 bushels for labor and 46.8 bushels for land. In terms of value, marginal product is \$58 for labor and \$46.80 for land. But now we must go beyond the situation of the individual producer. If producers in general compete freely for the use of land and labor, these figures will not correctly express the marginal products of land and labor for the particular wheat producer unless they do the same thing for other wheat producers and the producers of other commodities as well. Suppose that the marginal product of labor is either higher or lower for our farmer than for other producers. If it is higher, the farmer can afford to attract laborers from other producers by offering somewhat higher wages. As he increases his labor force, the marginal product of labor will fall for him and rise for other producers, and this will go on until the marginal product of labor is the same and wages are equal for all the competing producers. On the other hand, our farmer will lose labor to other producers if its marginal product is lower for him than for them, and this will continue until marginal product and wages are equal for all. Similar reasoning is applicable to the marginal product of land and the payment of rent. Thus, under competitive conditions, the operation of diminishing returns throughout the field of production *as a whole* tends to determine the comparative marginal products and values of the different agents of production.

Of course the principle of marginal productivity, or imputation, and the closely related principle of opportunity costs are merely statements of tendencies. In practice they work no more perfectly than competition itself. Yet they are very important. They go far toward explaining wages and returns to other agents of production. In a general way, without its

later clarification and refinements, the principle of marginal productivity was what Ricardo had in mind when he proposed his gloomy iron law of wages. He assumed that laborers would get about what they produced, and that as population went up and up the productivity of labor would go down and down until it reached a level where sheer lack of subsistence would halt the growth of numbers. Nevertheless, the iron law is far from being the same thing as the marginal productivity principle. There are two reasons why the marginal product of labor does not fall to the subsistence level. First, laborers check the increase of their numbers enough to keep any such low level from being reached. Second, improvements in the arts of production offset diminishing returns by raising its operation to higher levels. The second reason gives us, in a sense, "increasing returns."

Another Kind of "Increasing Returns"

In the Western world the century and a quarter which followed the appearance of the *Essay on the Principle of Population* did not bear out the dismal predictions of Malthus and his followers. On the contrary, wages really increased about fourfold. In the thirty years following our Civil War, wealth trebled while population only doubled. Malthus underestimated the population which the earth can support. He underestimated, too, the importance of the "negative" check. He failed to foresee the growing importance of the practice of contraception. But perhaps the best illustration he gives us of the dangers of prophecy is his inability to understand the tremendous potentialities of the Industrial Revolution. Sweeping improvements in the arts of production had already begun in his time, and there is no end in sight today. In the nineteenth century it was the development of power machinery driven by steam which proved most spectacular. Of our present 50,000 patents a year, those of greatest importance relate to the fields of electricity, chemistry, and biology.

INCREASED RETURNS

Even in agriculture, which was supposed to be especially subject to the tyranny of diminishing returns, the revolution has occurred. What had taken place before the date of his *Essay* might have put Malthus on guard. Jethro Tull had demonstrated the immense advantage of substituting continuous cultivation, by horse power, for hand methods and mere sowing and reaping. Viscount Townshend had proved by experiment that the rotation of four crops—wheat, turnips, barley, and clover—was much more productive than the continuation of a single crop.

Robert Bakewell soon showed how to improve livestock by breeding in for the desired characteristics. It was not long before James Smith was able to double the output of a great deal of land by draining it. Liebig, a German chemist, showed how the composition of the soil affected the nutrition of plants; and the rapid development of transportation made it possible to import the required fertilizers at low rates. Cheaper exportation of products was equally important. Much of this can be seen from the present plight of Bolivia, which is still so poorly supplied with roads and railways that steers sell at two or three dollars a head, and land at five cents an acre.²

How important all this was can be guessed from what Clive Day tells us of medieval agriculture:

The stock was of such a poor breed that a grown ox seems to have been little larger than a calf of the present day, and the fleece of a sheep weighed often less than two ounces. Many of the stock had to be killed before winter, as there was no proper fodder to keep them, and those that survived were often so weak in the spring that they had to be dragged to pasture on a sledge. Insufficient stock meant insufficient manure, and though the fields were allowed to lie fallow every third year they were exhausted by constant crops of cereals, and gave a yield of only about six bushels of wheat an acre, of which two had to be retained for seed.³

Even in recent years it is said that normal horses taken to the Falkland Islands, where the raising of sheep has impoverished the soil, breed down in two generations to the size of ponies. The great increase in the agricultural output per man since 1389 is illustrated as follows:

In 1389, in securing the crop of corn from 200 acres, there were employed 250 reapers and thatchers on one day, and 200 on another. On another day in the same year 212 were hired for one day to cut and tie up 13 acres of wheat and one acre of oats. At that time 12 bushels to the acre were considered an average crop, so that 212 persons were employed to harvest an average crop, an operation which could be performed with ease in our time by half-a-dozen persons.⁴

Ricardo, when he added his iron law of wages to the dirge of Malthus, spoke of rent as being based on the "natural and indestructible qualities of the soil." But, although clarity of thought is gained by basing rent on standing room, the tyranny of landlords over laborers which was

² Margaret A. Marsh, *The Bankers in Bolivia* (1928), pp. 14-15.

³ Clive Day, *History of Commerce*, New York: Longmans, Green & Co., 1922, pp. 35-36.

⁴ Cited by Edwin Cannan, *Theories of Production and Distribution* (1917), pp. 174-75.

anticipated by Ricardo has been restrained greatly by improved methods of farming. Around 1800, the work of one farmer sufficed to feed hardly six persons. Today it feeds three times this number. Labor has enjoyed much of the benefits of better cultivation, better fertilizers, better choice of crops, better breeds of livestock, better use of waste products, and better transportation. What Malthus called "the power in the earth to produce subsistence for man" has hardly reached the end of its tether. A Cornell economist of some imagination has suggested that changed methods may permit the earth to sustain up to 96,000 people to the square mile. However this may be, human ingenuity is never stayed. Typical of its feats is the following example given us by Sir Arthur Salter:

When in 1914 the great sugar-consuming country Great Britain was cut off from its normal beet supplies in Austria-Hungary, a great stimulus was given to cane-sugar. Some far-sighted Dutch planters in Java employed scientists to study the Mendelian laws of heredity and the intricate statistical calculations which show the results of selection and inter-breeding, whether in animal or plant, and to try to find some practical application to cane-growing. A combination of practical experiment and statistical research succeeded beyond all expectation and by careful selection the sugar-content of cane was multiplied several times without increase in man-power or in cost.⁵

DIMINISHING RETURNS NOT "ABOLISHED"

The results of such improvements have sometimes been referred to as "increasing returns." They do not mean, however, that some productive agents are being operated in the *stage* of increasing returns, as described above. What they actually mean is that, although operations usually are confined to the stage of diminishing returns, productive agents in general are made to yield larger returns. Perhaps it is a confusion between these two senses of "increasing returns" which has now and then led writers to the mistaken conclusion that diminishing returns have been "abolished." In any case, this conclusion errs as much on the side of optimism as Malthus and others erred on the side of pessimism. Some years ago a historian sought as follows to set economists right on economics:

The economist who knows so much about the Industrial Revolution has overlooked another revolution that is of fully as great importance, *a revolution that fundamentally changed the basis of agriculture, that abolished the law of diminishing returns as expressed by Lucretius, later discovered by the econo-*

⁵ Sir Arthur Salter, *Recovery: the Second Effort*. New York: D. Appleton-Century Company, Inc., 1932, p. 40.

mists (in its original version) just at the time when it ceased to be true. This great revolution was the introduction of grass-seed and of the "great trefoils," the various clovers, including later on Lucerne or alfalfa.⁶

Now, as some of the quotations above this will testify, "the economist" has not overlooked the revolutionary results of agricultural improvements. But it is one thing to grant the effect of hay on history and quite another to contend that hay has abolished diminishing returns. Neither hay nor anything else has done this.

What really goes on is a battle between diminishing returns and improvements in the arts of production. The struggle for the means of subsistence is a fight, not so much between human toil and the niggardliness of nature, as between learning and ignorance. Thus far, it is true, learning has had the better of it. Nevertheless, diminishing returns is an implacable opponent. If improvements offset diminishing returns, so are they held in check by diminishing returns. When the discoveries and inventions which marked the Industrial Revolution began to appear in rapid succession, it seemed reasonable to expect that poverty would soon disappear and that men would live well by working but a few hours a day. Since then the "permanent abolition of poverty" has been predicted again and again, once as recently as the "new era" of the 1920's. But it has not happened. Population increase and its accomplice, diminishing returns, have prevented it. Although they were too dismal, the Malthusians were far from being wholly wrong. Even in the richest country in the world, most people still spend about half their waking hours in work, and most people are still poor.

PROBLEMS

1. The charge is sometimes made that the American farmer is really a "miner": that, instead of farming a little land intensively and caring for it well, he farms a great deal of land and robs it of its fertility. Assuming the charge to be well founded, is there any logical defence of the American farmer's practice? Explain.

2. Taking the point of view of an individual producer of a single commodity, graph and explain:

(a) Variations of average fixed cost, average variable cost, and average total unit cost;

(b) The determination of "least cost";

(c) Variations of marginal cost;

(d) The equality between marginal cost and average cost (average total unit cost) for the output of minimum average cost.

⁶Vladimir G. Simkovitch, "Hay and History," in the volume *Toward the Understanding of Jesus*. New York: The Macmillan Company, 1925, p. 151.

3. Indicate how the comparative economic values of different productive agents are determined throughout the field of production as a whole. As far as the essential principle is concerned, does it make any difference how many productive agents there are, or how many qualities of each productive agent there are? Explain.

4. Norway has less than 22 persons to the square mile; the Netherlands, over 550. What tend to be the effects on the comparative values of land and labor in the two countries? But what is the effect of the comparatively large foreign commerce of the Netherlands?

5. An individualistic and freely competitive society has 350 homogeneous laborers. It has also four grades of land: 10 plots of Grade A, 20 plots of Grade B, 30 plots of Grade C, and 40 plots of Grade D. On one plot of

		B	C	D
1 man can produce	100	90	80	70
2 men can produce	185	165	145	125
3 men can produce	245	215	185	155
4 men can produce	265	225	185	155
5 men can produce	265	225	185	155

(a) How many laborers will actually work on Grade A? On Grade B? On Grade C? On Grade D?

(b) What will be the wage rate on Grade A? On Grade B? On Grade C? On Grade D?

(c) What will be the rent on a plot of Grade A? Of Grade B? Of Grade C? Of Grade D?

6. "Economists seem to have become most concerned about diminishing returns precisely during the era when no such thing exists—that is to say, when the march of inventions and improvements has abolished diminishing returns and substituted increasing returns."—Discuss.

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PART II. PARTS OF THE MACHINE

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IV

BUSINESS UNITS

The existing economic organization is a much more complicated and delicate piece of machinery than a locomotive, and yet, whenever some imperfection in the work becomes particularly prominent, we are overwhelmed with suggestions about causes and remedies by persons who have not the smallest general knowledge of the reasons why the machinery works at all.—EDWIN CANNAN.¹

ON THE ECONOMIC front, the armanent used by men against diminishing returns is variously called an organization, an order, a system, a mechanism, a machine. Viewed as a machine, it has productive operations which display roughly the following sequence. First, there emerge certain "raw materials"—grain, minerals, lumber, wool, cotton, and the like. Second, these materials are manufactured or otherwise processed into new forms. Third, they are carried, over time as well as through space, to consumers. Meanwhile several things happen.

There is a *marketing* process in which, as a rule, goods go from materials producers to processors, to wholesalers, to retailers, to consumers. At each step there is a market. It is a combination of sellers and buyers, of supply and demand. In the materials market, the sellers are the producers of raw materials, and the buyers are the processors. In the processors' or manufacturers' market, the sellers and buyers, respectively, are the processors and the wholesalers. In the wholesale market, they are the wholesalers and retailers; in the retail market, the retailers and consumers. Production is not finished until the last step is completed. The channels through which products flow from original producers to eventual consumers may be changed somewhat, but the functions performed on the way cannot be abolished.

There is a *financing* process which follows goods from start to finish. Money and credit are used to trade goods from sellers to buyers in the different markets. They are used also for lending and borrowing.

¹ *Wealth*. London: P. S. King & Son, Ltd. (1924), pp. v-vi.

There are both short-term and long-term credits. For the most part, loans do not go direct from savers to borrowers. Instead, they go through intermediaries known as "banks." *Commerical* banks deal in both short-term and long-term loans; *investment* banks, mainly in investment credit for long-term loans. The proceeds of short-term loans are spent for such things as common labor, raw materials, and stocks of goods which are turned over in a short period. The proceeds of long-term loans go for items like land, buildings, and machinery, which keep capital tied up for a long time.

Throughout the many phases of production there have grown up certain leading types of business organization or management. They are commonly called *business units*. Sometimes they embrace only particular firms, but sometimes they extend to groupings of different firms under a centralized management. Thus we have the *individual proprietorship*, the *partnership*, and the *corporation*, as well as the *combination* which unites firms. Although a producer is frequently referred to as "he," this is merely a convenient term dating from the time when production was run mainly by individual proprietors. Today "he" is usually a corporation. The same thing is true of "the businessman." Unless "he" refers to a hired executive, this individual is typically in the nature of a handy myth. The place of the old-fashioned businessman, who personally bore the risks of a business, has been largely taken by the corporation.

Other organizations have been developed for the special purpose of dealing in labor services. Again, traditional terms and attitudes have far outlasted the situations to which they once pertained. It is still said that "the employer" hires "laborers," as though an individual proprietor were engaging workers, well known to him personally, from his own neighborhood. In reality, most of the hiring is done by the officials of corporations, frequently organized into *employers' associations*, who often deal directly or indirectly with the officials of *labor organizations*. It is still said that "the employer" has a right to run "his" business as "he" sees fit. Yet "he" is driving wage bargains with strangers for whom "he" feels little personal responsibility. For "he" is really an organization vitally affecting the interests, not merely of many stockholders and laborers, but of a much larger number of consumers. The employer and the employee are much different from what they used to be, and their rights and duties have changed correspondingly.

Although the main purpose of the present work is to show how the parts of the economic machine work *together*, occasional references to leading *parts* of the machine are indispensable. To clear the main road of detours, therefore, this chapter and the next four will outline the

organization of business, of labor and of finance. What has happened in these fields, however, will be more easily understood if we first consider briefly the large-scale operations and specialization which are now so much more pronounced than they were a century and a half ago.

The Setting: Specialization

In itself, specialization is at least as old as history. Records of the past, no matter how far back they go, reveal no such thing as "the solitary savage living in his cave." Always human beings have lived in "societies" of some sort—in families, clans, tribes, city-states, nation-states—and always there has been some division of labor. Not unnaturally it was noticed that some people or some regions were especially well adapted to producing special things; and it was observed that people who required many things could not specialize on a few unless they could trade their specialties for other products.

ADVANTAGES

Some extremely important advantages of specialization probably were not suspected at first. The precept that "practice makes perfect" has held in a remarkably broad way. Around specialized industries there have developed bankers, makers of accessories, salesmen, and buyers, all exceptionally skilled in furthering those industries. Waste has been avoided because, as men have ceased being shifted from job to job, special tools have been kept busy more of the time. As processes and operations have become more and more subdivided, it has grown easier to invent machines for much of the work.

GROWTH OF SPECIALIZATION

Several centuries before Christ, the Phoenicians carried on an extensive commerce by river and by sea. They traded their exports of specialties—paper, metal products, glassware, purple dye—for imports of other specialties—precious metals, Baltic amber, Hittite iron. John Masfield has made wistful reference to these "good old times" in his *Cargoes*:

Quinquireme of Nineveh from distant Ophir,
Rowing home to haven in sunny Palestine,
With a cargo of ivory,
And apes and peacocks,
Sandalwood, cedarwood, and sweet white wine.²

² *Collected Poems*. By permission of The Macmillan Company, publishers.

Macaulay was not the first to observe that "of all inventions, the alphabet and the printing press alone excepted, those inventions which abridge distance have done most for the civilization of our species." To the modern Panama Canal, which shortened the water route from New York to San Francisco by 8,000 miles, the ancients apparently had their counterpart. Along the present course of the Suez Canal, we are told, there can still be seen distinct traces of a canal built and used by the Phoenicians. From these people, who once colonized Malta, Sicily, Sardinia, Carthage, and parts of what is now Spain, the Greeks learned to build ships and to steer them by the Northern Star, which they called "the Phoenician star."

In their turn the Greeks carried specialization further. Aided by a good harbor and a strong navy, the little island of Aegina, in itself rocky and barren, grew immensely rich from a commerce reaching into every sea. By extending the market it became possible not merely to concentrate on special industries but also to increase the scale of such industries to the point where different groups of men could be kept at highly specialized operations. Xenophon, a historian of ancient Greece, speaks of a subdivision of shoemaking between men's and women's shoes, and also between cutting and sewing. For every type of specialization existing today there is precedent of long standing. If Massachusetts now has "territorial specialization" in textiles, Massachusetts had similar specialization a century and a half ago in shipbuilding. If there are specialized processes and operations now, so were there then. If modern roads extend the size of the market, the military roads of Caesar and Napoleon broke down the self-sufficiency of different districts, intensifying specialization as products came to be dispersed over wider and wider territories. Thus specialization was already old when America was colonized, and when the Industrial Revolution came.

Since then, specialization has only grown more intense. That is all, but it is much. It goes far to explain why business, finance, and labor are organized as they are today. With the coming of large-scale operations, far-flung trade, and impersonal relations between workers and employers, it became necessary to have large amounts of capital, concentrated and continuous management, an elaborate financial mechanism, and a more comprehensive organization for the purchase and sale of labor services.

Business Units

Three leading types of business organization developed. Any of the three may operate with borrowed funds as well as with its own. But the

three differ in the manner of raising funds, and they differ with respect to the "incidents of ownership," namely, risk, income, and control.

THE INDIVIDUAL PROPRIETORSHIP

First, there is the *individual proprietorship*. The individual owner ventures his own capital. He may add to the investment by borrowing. If he does, his promise to repay typically takes the form of the "promissory note." The lender may be secured only by the general ability and integrity of the borrower. But generally he is protected by a claim, such as a mortgage, on property supposed to be at least equivalent to the amount of the loan and interest. The proprietor controls the business and takes the net income, if there is any. Subject to the limits set by bankruptcy laws, he is fully liable for its debts. The risk and control of the lenders is "contingent"—contingent on their having to foreclose at a loss and take over responsibility for the business. This type of organization persists today only in businesses, like small shops, where the amount of capital required is not large and the problems of management are comparatively simple.

THE PARTNERSHIP

Second, there is the *partnership*. It is an association of two or more individuals in a common venture. The partnership works on the principle that "two heads are better than one"—and that two purses are bigger than one. At law, the partnership has no existence apart from the status of the partners as individuals. If lawsuits arise, it is not the firm which sues or is sued: it is the partners, individually, or jointly, or both. The partners may specialize in different phases of the business. Thus, one partner in a law firm may prepare briefs while another pleads cases in court. But each is responsible for the acts of any or all. There is "unlimited liability." If any partner borrows, or breaks the law, each of the others is responsible to the extent not only of his investment in the business but of his personal property as well. A partnership is impermanent because the death or withdrawal of any member automatically dissolves the firm and makes necessary the formation of a new one before business can go forward. This form of organization is today confined mainly to small-scale retailing, the professions, and investment banking, where large amounts of capital are not required.

THE CORPORATION

Third, there is the *corporation*. It is especially well adapted to the continuous use of very large amounts of capital. This fact is particularly

evident in manufacturing, where corporations, though they represent only one-third of all firms, do almost nine-tenths of the business. Corporations turn out practically the whole of such products as steel, automobiles, airplanes, phonographs, radios, and the like, which call for large masses of materials or "stream" methods of manufacture. They predominate also in banking, public utilities and mining.

The company whose assets are split into a large number of shares, or stock, can be traced back to medieval Italy. There the city-states divided their public debt into shares. In order to get paid, the creditors who held the shares took over the collection of certain taxes; and they got together in something like a corporate form of organization to employ collection agents, accountants, and the like. Of course these shares were terminated when the collection of a debt was completed. But permanent shares came into the picture in the 1300's, when Genoa borrowed heavily for war and gave the creditors transferable shares in some alum works and other property. Being unable to liquidate the debt, the city left the creditors in possession of the properties, which, still represented by shares, were then operated much like a modern corporate enterprise.

For about two centuries after this time, however, the share company was a comparative rarity. One of the more common forms of association continued to be the "family firm," a sort of partnership of relatives. But it was inadequate to large-scale and continuous business, as was illustrated by the experience of the Fuggers. The fortune of the Fugger family had been built up by various financial operations, such as extending war loans at high rates to monarchs and collecting income from properties pledged as security for loans. At first, the family used its own money, and stuck fairly well to promising ventures. Later the ventures became larger and increasingly speculative, while more and more borrowed funds were used. The personal ability of the family slumped. Eventually unfortunate loans dissipated much of the family's accumulations, and ruined nobles, burghers, peasants, and servants who had allowed the family to invest their money.

In the 1700's the "joint-stock company" developed rapidly. Its immediate predecessor was the "regulated company," which usually possessed a monopoly privilege in some field of trade. Like our New York Stock Exchange, the regulated company was a loose association in which individuals who paid for membership and obeyed certain rules could trade with their own capital. The Virginia Company, London Company, Plymouth Company, and the others which founded our colonies, were originally of this type. But there were serious weaknesses. While large

amounts of capital could be assembled, they could not be held together and used satisfactorily. Each investor looked out for himself, resisted central control, and could withdraw his capital during a period of hardship when it was most needed. For these reasons the British East India Company, which was chartered by Queen Elizabeth as a regulated company in 1600, was converted into a joint-stock company in 1622. The change brought about two great advantages. First, capital was put under the unified management of specialists. Second, individuals could now withdraw without removing their capital, because the company's capital was represented by transferable shares which shareholders could sell. A temporary setback caused by imprudent and dishonest investment in cases like that of the "South Sea Bubble" did not prevent the joint-stock company from spreading. It proved its usefulness, for example, in the American "turnpike companies" which constructed and operated toll roads in the early 1800's.

One further advance converted the joint-stock company into the corporation of today. This was the introduction of limited liability, which occurred shortly after 1850 in England. Previously shareholders were treated like private partners with respect to liability for company debts. The risk thus imposed on shareholders was shockingly illustrated by the case of the City of Glasgow Bank. At the time of its failure in 1878 this bank was treated as an "unlimited" company. In order to meet its debts, shareholders had to put up £2,750 on the £100 share. As a result of this calamity, the privilege of limited liability, which had been enjoyed by most businesses since 1862, was extended to banks. In the United States, the liability on corporate shares is ordinarily limited to 100 per cent of the par value.

The Modern Corporation

The "limited company" or "corporation" derives its existence from the charter granted by the State, and is confined to the activities covered by this charter. It is administered by such officers as a president, treasurer, and secretary selected by directors who in their turn are elected by shareholders. Beyond this it has the following noteworthy characteristics:

SEPARATE PERSONALITY

First, the corporation is treated, at law, as having a personality separate from the personalities of the shareholders. Thus it is corporations as such, not their shareholders, which are sued or which sue. This "fiction" is of practical importance, since it permits the corporation as

such to act, thereby avoiding the disunity which handicapped the regulated company.

SECURITIES

Second, there are securities. They are of two main kinds, bonds and shares. Bonds, since they are much like the promissory notes used by the individual proprietor in borrowing, secure those who lend to the corporation. Shares, which are represented by certificates commonly called stocks, mean what the term implies: they signify shares of ownership in the assets of the corporation. Preferred stocks come ahead of common in the distribution of income. The holders of cumulative preferred stocks are even entitled to back dividends, unpaid in lean years, before the holders of common stocks get anything. In the order of their claims on the corporation, the first creditors are wage earners, salaried employees, those who have sold goods to the company, and the like. Then come bondholders, then preferred shareholders, then common shareholders. However, common shareholders have the advantage, denied to holders of bonds and preferred shares, that no specific limit is set on their rate of return. Ordinarily, too, but not always, common shares carry the right to vote, while preferred shares and bonds do not.

LIMITED LIABILITY

Third, there is limited liability. The liability of the shareholder for company debts is usually limited to his proportionate share of the company's assets. Technically, the shareholder is liable for any unpaid balance on the subscription price which he has agreed to pay, although the corporation commonly protects him from this liability by issuing shares as "fully paid and nonassessable."

PERMANENCE

Fourth, there is permanence. Because shares are transferable, the corporate personality can go ahead undisturbed by the fact that ownership in corporate property is continually changing hands.

ADVANTAGES

For purposes of modern business, these characteristics offer great advantages. The device of shares small in denomination and limited in liability makes it possible to mass much capital by attracting many investors. Corporate capital is further augmented by the very diversity of securities. The existence of stocks and bonds subdivided into various types makes it possible to appeal to investors representing all shades of

taste with respect to risk, income, and control. For example, the investor who especially prizes the chance of a big return may buy common stocks, while the more conservative investor may take first-mortgage bonds. The corporation is also well adapted to the effective use of large capital. Having a long existence separate from any particular shareholders, it can develop consistent, long-range policies. Being large, it can afford to employ specialists for all phases of its work.

To be sure, the corporation is the victim of discriminatory taxation. The use of this form of business enterprise is discouraged somewhat by double taxation, which takes the form of taxing the real property of a corporation in the jurisdiction where the property is located and of taxing owners on the securities of the corporation in other jurisdictions. The corporate form in general, and the large corporation in particular, is handicapped by progressive rates of taxation on corporate incomes. (The larger the income of the corporation, regardless of the number and economic circumstances of the stockholders, the higher is the tax per dollar of income: see Chapter XXIX.) Even the taxes imposed for setting up in business are in general distinctly higher for corporations than for other forms of enterprise. In spite of disadvantageous taxes, however, corporations account for almost three-fifths of our entire national income.

If this were all, the effects of the corporation would present a fairly simple and, on the whole, restful picture. But this is not all. In reality, the corporation is a leading instrument in bringing about what is little short of a revolutionary change in the character of our economic order. Perhaps the considerations which follow will suggest why.

Combination

For better or for worse, the centralization of business has been carried far beyond anything thus far indicated by our discussion. Business firms, usually in the form of corporations, have been united, and the corporate form of organization itself has had much to do with promoting combination.

"VERTICAL" AND "HORIZONTAL" COMBINATION

Two broad types of combination have appeared. The motor industry affords illustrations of both. The Ford Company is an example of "vertical" combination. It integrates the various steps of automobile production "from the ground up"—from raw materials to transportation to manufacture to selling. General Motors, although it, too, represents no little integration, is a marked example of "horizontal" combination. That is, it has combined a number of firms at a given stage of production.

In this case the stage is manufacturing, where the formerly separate firms of Chevrolet, Pontiac, Oldsmobile, Buick, and Cadillac are now under one general management. As yet General Motors has not gone far enough to constitute a monopoly, since it does not include Ford, Chrysler, and Studebaker. A fair idea of the various subtypes of horizontal combination can be gathered from the progress of the Standard Oil interests.

FORMS OF HORIZONTAL COMBINATION

America's first successful oil well was sunk at Titusville, in 1859, on the eve of the Civil War. Among the able young men not to be found in the Union forces three years later was John D. Rockefeller, then twenty-three years old. Instead, he and a *partner* had continued in the produce commission business at Cleveland, where their profits had risen with the wartime demand for produce. In 1862, the partners invested \$4,000 in an oil refinery set up by Samuel Andrews in Cleveland. By 1865 the refinery had done so well that Rockefeller got out of the commission business and went into partnership with Andrews. At once the process of combination began. Rockefeller and Andrews collaborated with William Rockefeller and Company to build a new refinery, and the two concerns set up in New York City the selling agency of Rockefeller and Company. In 1867 these three partnerships were united with the firms of S. V. Harkness and H. M. Flagler to form the partnership of Rockefeller, Andrews, and Flagler.

In 1870 the partnership phase ended, when the *corporation* called the Standard Oil Company of Ohio was established. Capitalized at \$1,000,000, and controlling 10 per cent of the refined oil output, it seemed to represent a surprising amount of progress in eight years. But it proved only a beginning.

In another nine years the Standard Oil Company came to control over nine-tenths of the refining business. This result was brought about by the familiar combination of ability and luck which makes the "captain of industry." Rockefeller had the luck to be situated in a strategic position. In bringing crude oil into the Cleveland area and sending refined oil out, he was able to secure low rail rates by playing the railways off against one another—the more so because the roads, being over-extended and faced with water competition as well, were desperately in need of traffic. Rockefeller, who had already foreseen the advantages of large-scale operation, possessed the ability to capitalize this opportunity. He made telling use of the railway "rebate." That is, Standard paid about the same rail rates as its competitors, but got back part of the payments. In 1872, the South Improvement Company, a Pennsylvania cor-

poration controlled by Standard, was organized to negotiate with the carriers, giving them a large volume of traffic in exchange for rebates. It got rebates not only on its own shipments but on the shipments of competitors as well. The rebates ran 40 to 50 per cent on crude and 25 to 45 per cent on refined.

THE POOL

Although the State of Pennsylvania withdrew the charter of the South Improvement Company in a few months, favoritism in rates continued. It was helped along by the Central Association of Refiners, a loose "pool" organized in 1874 to centralize buying, selling, and the pursuit of low rail rates. The Standard also gained predominant control of pipe lines used to carry crude. Independent companies were either forced into the Standard or crushed.

THE "TRUST"

In the legal attack on the South Improvement Company, a young lawyer, Samuel C. T. Dodd, had proved so effective that in 1877 Rockefeller hired him. Two years later, he fashioned a new weapon for his new employer. It was the Standard Oil "trust." The relation which this trust established between the Standard Oil Company and the stockholders of a large number of firms was much the same as the relation between an ordinary trustee and his ward. The trustee has the right to manage the property, while the ward has the right to the income. The shareholders of the firms which joined the trust turned over management to the Standard, retaining the right to income from the properties of the companies. They did this by exchanging shares in their companies for "trust certificates" which gave them proportionate interests in the collective property managed by the trustees. This smooth arrangement was finally outlawed by an Ohio court in 1892.

THE "COMMUNITY OF INTEREST"

For some years thereafter the Standard operated on a "community of interest" arrangement. This means that officials and shareholders of different companies manage to agree pretty well on policies when it is to their common interest to do so. A common interest is likely to exist when the same individuals hold stock or positions in several companies at once; and it is often enhanced by kinship or friendship.

THE "HOLDING COMPANY"

Some less loose and unstable bond than this was sought, however, and it was found in 1899 in the form of the "holding company." The

Standard Oil Company of New Jersey, then engaged in refining oil, took on the additional task of holding a controlling interest in a great many firms, including most of those formerly united in the trust. The controlling interest was secured by exchanging shares in the holding company for voting shares in the separate firms. It was a neat device for pyramiding power. The holding company needed, at most, only a majority of the voting stock of the constituents, and the insiders needed only a similar influence in the holding company in order to control the whole thing.

But this form of combination, too, fell on evil days.³ There was a premonitory shudder in 1901, when President Theodore Roosevelt directed his attorney general to begin the job of dissolving the Northern Securities Company, a holding company linking the Northern Pacific and the Great Northern railways. The ground for action was the violation of the Sherman Anti-trust Act of 1890, which forbade, among other things, "every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations." The announcement of the suit threw stock markets into confusion. J. J. Hill complained that the railways, which had done so much for the country, now had to fight for their lives "against political adventurers who have never done anything but pose and draw a salary." The *Detroit Free Press* retorted: "Wall Street is paralyzed that a President of the United States should sink so low as to try to enforce the law." In 1904 the government won its case. In a contest running from 1906 to 1911, the government also dissolved Standard's

³ But in the railway and public utility fields, in particular, great systems of control have been built up since then by means of holding company pyramids. The holding is done in part by pure holding companies and in part by companies which are also operating companies. An example is the railway empire built up by the brothers O. P. and M. J. Van Sweringen. With or without ownership of a major part of assets (as we shall see presently, under the heading "Separation of Ownership and Control," majority of ownership is not necessary to majority of control), the brothers controlled holding companies, which controlled other holding companies, which, together with certain operating companies which they in turn controlled, were able to control still other operating companies. Reading from the top of the pyramid downward, we find the Van Sweringens on the highest level; on the next four levels we find four holding companies which, in order, are the Vaness Company, the General Securities Corporation, the Alleghany Corporation, and the Chesapeake Corporation; on the sixth level down we find three main operating-holding companies, namely, the New York, Chicago & St. Louis, the Chesapeake & Ohio, and the Missouri Pacific; and on the bottom level we find five main operating companies, namely, the Wheeling & Lake Erie, the Pere Marquette, the Hocking Valley, the Erie, and the Denver & Rio Grande. In 1930 it was estimated that the Van Sweringens were able to control the system by means of an investment equal to less than one per cent of the capital of the system. That is, an investment of less than \$20,000,000 controlled railroads having combined assets of more than \$2,000,000,000. (See Berle and Means, cited in the references below, pp. 72-75.) In its form of organization, this was one of the simpler pyramids. The pyramid dominated by Samuel Insull in the electrical utility field was so complicated that even Insull himself admitted his inability to explain it.

holding company, the Supreme Court holding it to be a combination unreasonably restraining interstate trade.

Since then, Standard has again fallen back on the "community of interest." But its unity and power have been seriously impaired. It was deprived of an important weapon in 1914, when the Supreme Court upheld the constitutionality of the Hepburn Act of 1906, which ruled, among other things, that interstate pipe lines are subject to federal control. Meanwhile independent companies have become more powerful, and even the members of the old Standard group have stooped to competition among themselves.

THE "MERGER"

The object of the foregoing sketch, however, has not been so much to outline the history of Standard Oil as to illustrate the forms of combination. At present a popular form is the property-owning corporation. Often called a "merger," it consolidates properties by purchase, by trading securities for real properties, or by merging firms. Though more costly than the old-fashioned trust and the holding company, it is simpler and less open to legal attack. But the older forms of combination have not by any means fallen into complete disuse.

In two important and related ways the corporation is lending itself to a sweeping change in our economic organization. First, it is helping to concentrate business in the hands of a smaller and smaller number of larger and larger firms. Whether it leads to downright monopoly or not, this tendency is incompatible with "free competition." As we shall see when we turn to the study of prices, the rivalry among a small number of huge firms is radically different from the competition among a large number of small firms. Second, the corporation is serving as a wedge to separate the two leading rights of private property—the right to receive income, and the right to exercise control.

CONCENTRATION OF CONTROL

On the one hand, the control of industry is being continually more concentrated in the hands of corporations. Control is already highly concentrated for natural resources, public utilities, manufacturing, and marketing. Half the output of anthracite is controlled by four companies, and four-fifths of it by eight companies. U. S. Steel controls over half our iron reserves. Of our steel-producing capacity, two-fifths is controlled by U. S. Steel, over half by two corporations, and more than four-fifths by nine corporations. Bell Telephone, Western Union, and the Radio Corporation of America dominate telephone, telegraph, radio, and

cables. Our aviation industry is dominated by three corporations; our supply of electrical power, by four groups. Our electric railways are falling under the control of a few great systems; our buses and taxis, into the hands of a few large corporations. Three concerns sell most of our motor cars. Two packing houses handle more than half the meat crossing the state lines. In the motion-picture industry, three concerns predominate; in paper production, one company; in aluminum production, one. One per cent of the banks have almost as much resources as all the rest put together. In fact, most of our major industries are dominated, and to a rapidly increasing extent, by huge corporations having assets of \$85,000,000 and up. It would take only one hundred concerns as big as the five-billion-dollar American Telephone and Telegraph Company to control *all* the wealth of America.

SEPARATION OF OWNERSHIP AND CONTROL

On the other hand, the control of these corporations is being similarly concentrated in the hands of a few persons—those who control enough shareholders' votes to select boards of directors or the majority of directors in such boards. Those who possess this control do not have complete or majority ownership of the companies affected. They get and keep their control in three leading ways. The nature of the control over America's two hundred largest corporations tells the story. Over a fifth of these companies are controlled by various legal devices. There is the holding company. There is nonvoting stock. Or certain shares are given excess voting power. Thus can one million dollars control assets of about a billion in the Cities Service Company. There is the voting trust, in which trustees, even if they own no shares at all, possess control. Nearly a fourth of these companies are under "minority" control. This is worked by "proxies." Shareholders who cannot appear at shareholders' meetings empower "proxies" to cast their votes for them. Owners of an extremely small minority of the shares are able to put in managers who select the committee of proxies. The proxy committee is subservient to the management, and this usually means that it is subservient also to the minority. Nearly half of these corporations are under "management" control. That is to say, the management, since it runs the machinery of proxies much as it likes, is not answerable to even so much as a stockholding minority.

To the degree that control is separated from ownership it becomes necessary to revise the theory that the initiative of the owners will secure efficiency. This theory assumes that the desire for profits will prompt the owners to control the business in the interests of efficiency. Where they are unable to control it, however, their mere desire for efficiency is

not likely to be realized except in so far as the actual controllers happen to want the same thing that the owners do. But the desires of the two groups, the owners and the controllers, need not run closely parallel. For example, the desire to enhance their power and prestige may lead the controllers to reinvest excessively large amounts of corporate income in the business, or to indulge in costly "welfare" projects at the expense of stockholders. The wishes of the owners count for little unless they are backed by the power to control.

PROBLEMS

1. Writing of the pin-making industry in 1776, Adam Smith estimated that as a result of specialization the output per man was 4,800 times as large as it would have been had each man been required to produce complete pins. (a) Explain. (b) Describe and illustrate the leading forms of economic specialization.

2. Explain why the corporation should have become the dominant form of business organization. To illustrate your point by contrast, indicate some fields in which the individual proprietorship or the partnership still prevails, and explain why this is so.

3. Describe the main types of corporate securities, indicating the essential differences between types.

4. "The transfer of corporate securities from one owner to another does not in itself increase capital or shift capital from one industry to another. Nevertheless, the securities system serves indirectly to make capital more plentiful and more mobile." Discuss both statements carefully.

5. By what means have the ownership and control of corporate enterprise been separated? Discuss the consequences.

6. Describe and illustrate "vertical" and "horizontal" combination, respectively. Which of the two is the more closely associated with monopoly, and why? Describe the leading devices used to effect horizontal combination.

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V

LABOR ORGANIZATION

The golf-links are so near the mill
That almost every day
The little children at their work
Can see the men at play.

AS HISTORY goes, labor organization is a recent thing. Even the wage-earning class is scarcely two centuries old. The serfs who toiled for manorial lords in medieval times were hardly wage earners in the modern sense. They were bound not only to the manor but also to the lord, for whom they had to perform toil and military service. The lord, in his turn, owed them protection and security of occupation which the modern employer is not obligated to give to wage earners. Neither did the craftsmen of the medieval guilds resemble wage earners closely. The controlling members of the guilds, the master craftsmen, made a living by selling their wares to customers. Subject to guild regulations, they were their own bosses. They owned materials, tools, and shops. They even employed workers called "apprentices" and "journeymen." But for a long time these workers, too, were unlike modern wage earners. The apprentice was learning a trade from a master, who typically treated him much like a son. The journeyman, just on the point of becoming a master, was spending a "wanderyear" in moving from place to place, studying the methods of various masters.

Emergence of Labor Organization

It was not until after about 1500 in Europe that journeymen and apprentices began to become real wage earners. The guilds, which had long been powers in town government, were gradually stripped of power by the rising political States. At the same time they became overripe within. They grew more and more exclusive. In many cases they turned a trade into a family monopoly. They required journeymen to pay extremely high fees in order to become masters. From this they sometimes

proceeded to cruelty, arranging that nobody could become a full-fledged member of a guild unless he married the daughter or widow of a master. A case is recorded of a man who was expelled because he took to wife a woman whose grandmother was the daughter of a shepherd. Becoming arrogant at a time when forces were at work to undermine their power, the masters only hastened their own downfall.

The journeymen organized, setting up shops in suburbs or anywhere outside the jurisdiction of the guilds. Encouraged by wholesalers who were only too eager to break the power of the masters, they outstripped the production of the guilds. Presently European overlords and merchants began *hiring* craftsmen excluded by the guilds. Some workshops operating on this plan numbered as many as 3,000 artisans. Since the employers controlled the materials, tools, shops, and markets, the workers had become true wage earners. The growth of this class to the point where the majority of human beings now belong to it was hastened by the Industrial Revolution. Most craftsmen lacked the training necessary for high position in large-scale industry and commerce. They could not compete with machines. They could not buy machines. They had to work for those who had the necessary wealth and training to own and operate "factories." The growing expensiveness of equipment on one side, and the system of property inheritance on the other, made the wage class ever larger and more distinct.

The next step in the "labor movement" was organization—a step still far from complete today. If all that the worker has to sell is work, this commodity is of a character to put the seller at great disadvantage. At the outside, the laborer has about 12,000 days of service to sell; in the average case, perhaps half this amount. Every day of it must be sold at once or not at all. Labor is the most perishable of commodities. To the laborer, the sale of his services is almost a life-or-death matter. To the employer of many laborers, the loss of one laborer's services is the next thing to nothing. The individual laborer also lacks the means to find out what his services are worth to his present employer, or to other employers. Besides, the fact that he is poor makes it hard for him to move to a better job even if he knows that it exists.

When these handicaps found terrible expression in industry, wage earners were driven to organize. To be sure, there had been organization before. Journeymen had organized to compete with organized guildsmen. Workers had long since united in "mutual benefit societies," families helping one another to bear the blows inflicted by sickness and death. There had even been "funeral societies" among the craftsmen of imperial Rome, because the government which soothed its people with bread and

circuses had failed to provide for decent burial, and it was feared that disembodied spirits would therefore stalk malevolently about. But there had been nothing much like the organization which now began in earnest—the organization of wage workers for specific economic purposes.

Purposes of Organization

These purposes are reducible, for the most part, to two related things—greater security, and higher wages. Workers seek to make themselves more secure by means of “seniority,” or preferential treatment based on length of service; by means of the redress of grievances; by means of protection from unjust discharge or layoff; by means of benefits for injuries and enforced unemployment; by means of pensions or insurance benefits after retirement. Most of all, workers seek higher wages. This means, essentially, higher “real wages,” that is, more ample supplies of the real goods and services for which money wages are exchanged. When the prices of the goods and services for which they spend their money wages rise, workers seek more than proportionate increases of money wages; when these prices fall, they seek to prevent proportionate decreases of money wages. They seek also a reduction of hours, another form of higher wages. And they seek improvement of working conditions, still another form of higher wages.

In their quest, workers use organization directly and indirectly—directly in driving bargains with employers, indirectly in influencing legislation. Various types of labor organization, although they display differences as to aims and policies and practices, have this much in common: It is the aim of all to increase the wages and security of their members. It is the policy of all to deal with employers through agents who represent whole labor organizations. And it is the practice of all to back up persuasion with pressure. Political pressure is brought to bear on public officials and public opinion with the object of securing improved labor legislation. Economic pressure is concentrated more immediately on employers in the form of certain weapons used in collective bargaining. A later discussion (Chapter XXIV) will emphasize the effects of labor organization on wages and security. The present discussion will stress the structural aspects of such organization.

POLITICAL PRESSURE

The political pressure exerted by laborers and liberals, although it may be less important than economic pressure, is an important adjunct of economic pressure. And it has produced some notable results. The

point may be illustrated forcibly by two examples taken from recent American experience.

One example is the National Labor Relations Act of 1935, which is intended to supplant and strengthen the collective-bargaining provisions contained in the National Industrial Recovery Act of 1933. The new Act, resting on the power of the federal government to regulate interstate commerce, goes to unusual lengths in protecting the right of workers to bargain collectively through representatives of their own choosing. Thus it discourages the "company union," that is, the union which, typically, is organized on the initiative of the employer, is limited in its membership to the employees of a given plant or corporation and lacks affiliation with any larger labor organization on the outside, and is dominated by the employer.

Section 7 of the Act affirms that:

Employees shall have the right to self-organization, to form, join, or assist labor organizations, to bargain collectively through representatives of their own choosing, and to engage in concerted activities of collective bargaining and other mutual aid or protection.

The labor organization chosen by a majority of the employees is to represent all employees in collective bargaining. Employers must observe this right of majority rule. They may not "refuse to bargain collectively with the representatives of their employees." They may not "dominate or interfere with the formation or administration of any labor organization or contribute financial or other support to it." Also they may not "encourage or discourage membership in any labor organization" by discriminating as to conditions of employment. Thus, they may not use the "yellow-dog contract," that is, the contract requiring the worker, as a condition to getting or keeping his job, to pledge himself that he is not and will not become a member of an outside labor organization. Employees do not lose their standing under the Act even if they engage in strikes which are not provoked by any unfair practices on the part of employers. However, the strikes sanctioned do not include "sitdown" strikes, which have been declared illegal by the federal Supreme Court. The operation of the Act is entrusted to the quasi-judicial National Labor Relations Board. This board may, in case of disagreement, determine by secret ballot or any other suitable method what is the appropriate organization to bargain collectively for labor. It may order employers to "cease and desist" from practices which it regards as unfair under the Act, and, if they do not comply, it may go to the federal circuit courts for orders or injunctions against them. The Act does not necessarily make every com-

pany union illegal, but it does make company domination of any union illegal. Practically all employers whose business extends beyond state boundaries are affected by it.

A second example is the Federal Wages and Hours Law of October, 1938. This Act, too, applies to industries engaged in interstate commerce. It sets minimum wages and maximum hours (puts a "floor" under wages and a "ceiling" over hours, as President Franklin Roosevelt described it). The maximum number of hours per week (forty-four and forty-two, respectively, for the first two years) is now forty, employers being required to pay for overtime at one and one-half times the regular rate. The minimum hourly wage was to rise to forty cents beginning with the eighth year of the operation of the Act. The Act also makes it illegal to employ children under sixteen years of age, or to employ persons sixteen or seventeen years old in dangerous or unhealthful work. Goods produced in violation of the restrictions imposed by the Act cannot legally be shipped in interstate commerce. Exceptions are made for certain classes of workers, such as seamen, employees of streetcar and motorbus companies, workers in seasonal industries, and workers engaged in producing and distributing farm products. Nevertheless, millions of workers are affected.¹ The task of carrying out the provisions of the Act falls in first instance on the Wages and Hours Administration. This quasi-judicial body has a large staff, made up in the main of civil service employees, and it is assisted by numerous industrial committees, each representing, for the industry in question, the employer, the employees, and the public. Appeals from its rulings may be made to the federal courts.

ECONOMIC PRESSURE

To use economic pressure, that is, to bargain collectively, it was first necessary to make good the right to organize at all. Ever since the fourteenth century in England "combinations" or "conspiracies" had been subject to prosecution. In the eighteenth century, courts still held labor organizations to be illegal combinations. In 1706 some cloth dressers of Leeds were fined heavily because they simultaneously refused to work for less than three cents an hour; and a combination of Cambridge tailors met a similar fate fifteen years later. When the Industrial Revolution got well under way in the latter 1700's, and the doctrine of "free competition" was developed to suit the tastes of those who dominated the new order, the prosecution of labor organizations grew more vigorous. "The law,"

¹In 1937, according to the Bureau of Labor Statistics, perhaps some four million persons were working more than forty hours a week, and perhaps about a million were receiving less than forty cents an hour. The numbers were affected, of course, by the extent of unemployment.

which is "the true embodiment of everything that's excellent," reasoned roughly as follows: "Free competition is good. Labor combination restrains free competition. Therefore labor combination is 'conspiracy,' a punishable offense." This overlooked the fact that even a single employer, when "he" is a big company hiring many men, is for all practical purposes a "combination" as far as the individual worker is concerned.

The shocking results of free competition for jobs eventually led lawmakers and courts to concede the formal right of workers to organize. In England the right was underwritten by the Trade Disputes Act of 1906, which held that neither labor organizations nor their leaders are liable for the wrongful acts of individual members during strikes. In the United States the mere right of organization has been recognized almost from the first. To bargain on even terms, however, workers must have not merely the right to organize but also the right to use methods making it worth while for employers to accept collective bargains and live up to them. The right to bargain not merely collectively but also effectively has developed slowly, but it is now well established.

LABOR WEAPONS

The foremost weapon of organized labor is the *strike*. By collectively refusing to work, laborers try to put the employer where the unorganized laborer finds himself in dickering for a job—in the position of accepting terms or losing his entire income. In the case of the "sympathetic" strike, the workers in one craft or industry strike to further the cause of workers on strike elsewhere. Unless they are violent, strikes are usually held legal, but their purpose must be to better the condition of the workers rather than to injure the employer. When conservative judges finish applying this distinction, it frequently turns out that sympathetic strikes are illegal. The term "walkout" was formerly used as a synonym for "strike," but a recent development changed this. Instead of walking out, workers on a "sit-down" strike continue to occupy the plant, thus preventing strike-breakers ("scabs") from taking their places. During sit-down strikes in France, it was not uncommon for workers to while away time with repair work. In Detroit, no similar use of the time of sitdown strikers is recorded. As noted above, the illegality of the sitdown strike has been established by decision of the Supreme Court.

Picketing, as employed by labor organizations, refers to the practice of stationing a man or a party of men near an establishment to deter strikebreakers, discourage customers, or enlist public sympathy for the cause of strikers. Pickets typically exhibit placards branding the establishment as "unfair to organized labor." Picketing is legal if it is peaceful.

As interpreted by judges, however, "peaceful picketing" is commonly reducible to ineffective picketing: the pickets must be so mild and so few in number that they can make little impression. Another weapon is the *boycott*. It is "primary" when it amounts to nothing more than a concerted refusal by the members of a labor organization to deal with an establishment. It becomes "secondary" when the original boycotters induce others not to buy from or sell to the boycotted firm. The boycott is legal if it is effected by "persuasion" and not by "coercion." But the fact that it is secondary is frequently enough to convince judges that it is coercive. What amounts to a persuasive boycott is the *unfair list* of firms not to be patronized. The same object may be sought with the *fair list*, which implies that firms omitted from the list are unfair. The *union label*, which certifies that the goods bearing it are made by "fair" firms, is essentially a form of the fair list.

An extreme weapon is *sabotage*. It is practiced by workers who remain on the job, where they make themselves expensive to the employer. Sometimes they damage equipment or products. Thus, they may put sand in gears, water in oil, or kerosene in beer. Or they may resort to such perfectly legal activities as taking it easy ("ca' canny"), interpreting instructions too literally, or telling the truth about the employer's goods.

Forms of Organization

But to get any clear idea of what labor organization means, it will be necessary to examine briefly the different leading types of unionism.

CRAFT UNIONISM

The craft union, or trade-union, groups wage earners according to the particular craft they pursue. This gives us unions of carpenters, masons, locomotive engineers, and so on. Historically, the local union came first, then the district union, and finally the national and international union. Shortly after our Revolutionary War there was a pronounced development of local craft unions among tailors, carpenters, shoemakers, and printers. In the next four or five decades there appeared some regional craft unions as well as some federation among different crafts. Not long before the Civil War there set in a movement toward nationalization which included not only the crafts already mentioned but also machinists, blacksmiths, iron-molders, hat-finishers, typesetters, and railway trainmen. The main aim of the craft union is to promote the interests of its own members. The feeling of "class consciousness" is weak. The locomotive engineer is quite as aloof from the section hand as the president of the road is from the engineer. This form of organiza-

tion makes for cohesion. It is "practical" in the sense that it is easily administered and does not attempt overambitious programs. Quite as logically, some less happy results have flowed from it.

The craft union lends itself to "demarcation," or "jurisdictional," struggles. Different crafts dispute about the right to exclusive jurisdiction over this or that type of work. They have done so ever since it was guildsmen, rather than wage earners, who were organized into crafts. Over two centuries ago the goose-roasters spent fifty years in forcing the poulterers to refrain from selling cooked game. Then for another fifty years they fought a losing battle with the cook over the right to sell cooked meat. Tailors quarreled with sellers of second-hand clothes, shoemakers with shoe repairers, bakers with operators of restaurants, and so on. Craft unionism breeds similar disputes. Carpenters find themselves at loggerheads with metal-workers, metal-workers with plumbers, bakers with confectioners, cabinetmakers with upholsterers.

Costs of production are increased because men from two or more crafts are employed to do what one might do were it not for the rule against trespassing. There is also strong opposition to improvements. Changes in methods and machinery, because they break up craft lines, are resisted as troublemakers. Under the craft form of organization, the temptation is strong to restrict labor services in various ways—by limiting the number of apprentices, charging high initiation fees and membership dues, shortening the hours of work, slowing down the pace, and so on. Each craft union figures that the demand for its particular services is pretty rigid, because its services alone do not greatly influence the total cost of producing goods. It reasons, therefore, that a little restriction of its services will raise its wages a great deal. This would be true if other crafts did not follow the same theory. But they do. Thus the result is to raise costs, reduce output, and cause unemployment all around. As we shall see presently, however, not only craft unionism but also industrial unionisms may be plagued by jurisdictional troubles.

INDUSTRIAL UNIONISM

The object of industrial unionism is to unite all the workers, not in just a single craft, but in a given industry. Thus an industrial union of railway workers would embrace engineers, firemen, conductors, trainmen and other workers in the industry, in one general organization, although each craft could still have its separate department. Our Amalgamated Clothing Workers, United Mine Workers, and Industrial Workers of the World (IWW) are industrial unions. In aim, the industrial union is much more class conscious than the craft union. In policy, it puts less

emphasis on restricting labor services and more stress on power in bargaining. Representing a much larger proportion of workers in an industry, it is in a position to inflict more severe punishment on the employer. It makes strikes more serious and harder to break.

In methods, our American industrial unions have been more radical than our craft unions. Craft unions have been content to seek more private property for their members. Industrial unions, though this is not inherent in their form of organization, have displayed more interest in substituting collectivism for the private property system. The socialists, for example, would put industry in general under centralized state control, bringing about this change by the ballot. Others, the syndicalists, apparently want each industry and its property to be controlled by its own national industrial union. In establishing this system, ballots would play a less important part than general strikes. Both the socialist and the syndicalist wings are represented in the now weak IWW. Industrial unions have resorted occasionally to violence. However, it is doubtful that, although they are abnormally frank in their advocacy of violence, they have greatly outdone either craft unions or employers in the actual practice of violence.

Industrial unionism tends to have an advantage over craft unionism with respect to jurisdictional troubles, because it divides workers into relatively broader and fewer groups. Nevertheless, it is not likely to be free from such troubles. Even if it had the field to itself, so that industrial unions could not have demarcation disputes with craft unions, the question would remain: What is an "industry"? A few illustrations will suffice. What industrial union should have jurisdiction over the workers of a piano factory which makes not only pianos but also piano benches and coffee tables? Or over the workers of a radio factory which produces its own cabinets? When different "code authorities" were trying to establish their jurisdictions under NRA (see Chapter XIX), a certain firebrick company was claimed, at least in part, by clay miners (because the company had its own clay mines), by coal miners (because a three-inch seam of unmarketable coal had to be removed in order to get at the clay), by printers (because an office boy turned out envelope stuffers on a small office press), and by eight other authorities as well. Such jurisdictional questions would hardly be decided by industrial unions without friction.

LABOR UNIONISM

The grouping of all laborers under one general organization is sometimes termed "labor unionism." The closest approximation of it to be

reached in America was the Knights of Labor. It reached its zenith in the 1880's with a maximum membership of 700,000, and then lost out to the rising American Federation of Labor. Its government consisted of a hierarchy of assemblies, all rigidly controlled from the top by a general assembly made up of delegates from seven states and fifteen trades. Local assemblies sometimes represented a single trade and sometimes several, while district assemblies might be based on either trades or geography. The organization of the Knights of Labor aimed, in a vague way, to substitute a variety of socialism for the wage system. Its cumbersome structure proved unequal to the task of carrying on political activities, sympathetic strikes, and co-operative ventures, all at the same time. As an ideal, labor unionism has much to recommend it. Nothing much short of it can cure labor disunity and restrictionism. But the administrative difficulties are great. If labor unionism is to become a workable reality, it will probably be through the development of industrial unionism as an intermediate step.

FEDERATION: THE AF OF L

Loosely uniting many American unions is the American Federation of Labor. It is composed of craft unions, industrial unions, and hybrids. There are about 100 national craft unions representing some 30,000 locals. There is also industrial unionism in several respects. First, about 450 local "federal" unions are federated directly with the AF of L because there is no national union for them to belong to, and many of these federals embrace more than one craft. Second, there are included some 850 "city centrals," which unite local craft unions. Third, there are "department councils," or "departments." Locally each department brings together representatives of closely related crafts, with the object of preventing or settling jurisdictional disputes; and the same thing is done on a larger scale by regional and national departments. The four national departments in the Federation relate to railway employees, the metal trades, the building trades, and the union label trades. Finally, the Federation has contained outright industrial unions, such as the United Mine Workers and the Amalgamated Clothing Workers. The importance of this type of union has increased rapidly since the formation of the Committee for Industrial Organization, or the CIO.

The Federation is governed by an Executive Council consisting of a president, eight vice-presidents, a secretary, and a treasurer. These officials are elected at the annual convention of the delegates who represent the constituent organizations. This governing body "federates" the members in the sense that it tries to preserve harmony among them, and

uses their dues to help weaker members, to promote organization, and to influence state and national legislation. The Federation opposes the formation of a separate political party representing labor. The theory runs somewhat like this. First, the Republican and Democratic parties are so powerful that it would be extremely difficult for a third party to make much headway against them. Second, even a powerful labor party would have its legislative efforts largely checkmated by the executive and judicial branches of our government. The conclusion from these two arguments is that American labor must stress collective bargaining more than legislation. Third, labor can work most effectively along the political front by putting pressure on the two major parties, by lining up votes to reward its friends and punish its enemies. The Federation opposes giving direct support to co-operative organizations of consumers, borrowers, and producers. For the most part, its member unions act independently. They call, conduct, and end their own strikes. The Federation, though it may extend support to "approved" strikes, is opposed to sympathetic strikes.

The Federation enrolls only about one-tenth of American wage earners, and one-fifth of those capable of organization. It is essentially a prosperous, middle-class institution. Industrial unionists commonly refer to it as a "company union," and to its officials as "job brokers." Beginning in the 1870's under another name, and with a charter which recognized "the solidarity of the whole working class to work against the common enemy—the capitalists," it soon decided that only skilled workers had enough solidarity to be a class. It made war on the Knights of Labor for assuming otherwise. Taking the most powerful unions away from the Knights, it set itself up officially, in 1886, as the American Federation of Labor, with a charter which apportioned voting power among its member unions according to the taxes they paid in to the Federation. These taxes, or dues, have been used largely for lobbying and for the salaries of officials.

THE CIO

The Federation is now engaged in a major struggle with industrial unionism. In large degree the conflict has arisen out of changes in economic and social conditions. For one thing, the great masses of immigrant workers have raised the level of their education and have become American citizens of long standing. Nevertheless the Federation has failed to find room for them in its organization. At the same time, the continuous growth in the scale of production and the rapid subdivision of work have rendered certain industries ill-adapted to craft organization.

Thus craft unions have found themselves ousted from the steel industry and unable to make headway in such huge new mass industries as automobiles and rubber. Yet the Federation has continued to regard these fields as potential sources of craft unions and has looked with disfavor on their being organized along industrial lines. Traditionally opposed to the inclusion of both skilled and unskilled workers in the same union, it has even been indifferent or hostile to the organization of the unskilled into unions co-operating closely with unions of the skilled.

The struggle was brought closer in 1933, when the National Industrial Recovery Act lent government backing to the formation of unions. The Federation, although it increased its enrollment, made much less progress than did company unions. One reason was that the company union offers real practical advantages. It does so mainly because it assumes the industrial form. Thus it cuts down demarcation disputes, and reduces the opposition to technical improvements which destroy established lines between crafts. To be sure, the spread of company unions was checked by the application of the National Labor Relations Act of 1935. But the logical answer to the advantages which the company union offered by reason of its industrial form lay in the development of industrial unions controlled by labor. Yet the Federation, at its 1935 convention, rejected a resolution intended to open the way for a modification of structure. Accordingly eight Federation unions, led by John L. Lewis, president of the United Mine Workers, set up the Committee for Industrial Organization to further the organization of industrial unions in the mass-production industries.

The success of the CIO, whose unions were soon suspended from the Federation, has been spectacular. It has organized, among other industries, steel and automobiles. Threatened by the Federation in 1937 with the revocation of the charters of its rebel unions, the CIO in 1938 adopted a constitution, changed its name to the Congress of Industrial Organizations, and became officially an independent group. As for the comparative memberships of the CIO and AFL at the present time, nothing more than a rough estimate can be given. One must lean on the records of the two groups, and it makes a difference who tells the story. The CIO claims upwards of four million members; the Federation, well over four million. If only dues-paying members in good standing are counted, it may be that the Federation is almost twice the larger of the two. There is no doubt, however, that the CIO has gained rapidly. In 1936, according to our Bureau of Labor Statistics, it had only a little over a million members, as compared with nearly three and one-half million for the Federation. Of course the rivals have been locked in

bitter competition for members and jurisdiction, with no special emphasis on "fairness."

It may be that the Federation could have obviated this struggle by adopting a policy of compromise with industrial unionism at the right time. As matters actually stand, there is apparently no stopping a contest for supremacy, unless, of course, a stiff dose of government intervention is used. In this contest the CIO is under one handicap. It has grown so fast that many of its workers have not yet learned the lesson of moderation and respect for central control. Besides, if it is fair to say that the Federation leadership is too conservative, it seems equally fair to say that some of the CIO leaders stand injudiciously far to the left of center. Like any new organization feeling out its power, the CIO is likely to be unaware of its limitations and to overreach itself. If it succeeds in settling down, however, it has certain inherent advantages over its rival. Its form of organization makes more strongly for unity and morale among laborers. Its "fighting spirit" takes into account the fact that the labor movement should seek not merely immediate practical gains but also outlets for the aspirations of thwarted lives. It is also better adapted than its rival to the needs of modern mass industries, which cannot tolerate the preservation of rigid craft distinctions. Meanwhile industry faces the dilemma of trying to "bet on the right horse."

Employers' Associations

The labor movement has been paralleled closely by the development of employers' associations. When local trade unions were formed after the Revolutionary War, local employers' associations of leather dealers, iron founders, shipowners, and so on, were formed to combat them. National craft unions, when they emerged after the Civil War, soon found themselves opposed by such groups of employers as the United States Potters' Association, the Stove Founders' National Defense Association, and the National Association of Manufacturers. Today, some 4,000,000 employers in practically every industry are brought together into about 3,000 local, state, interstate, and national organizations formed along industrial lines. In structure, these associations are much like labor organizations, although on the whole they are more frequently disbanded and reorganized.

TYPES

It is common to speak of two general types of employers' associations—the "bargaining," and the "militant." The idea is that the former has no objection to labor organizations, only seeking favorable bargains with

them, while the latter tries to break them up. Thus the Stove Founders' National Defense Association is said to "negotiate" with the International Moulders' Union, while the National Association of Manufacturers "fights" the American Federation of Labor. Perhaps. But the distinction, never too clear, has become especially hard to draw since the World War. In labor relations, as in international relations, negotiators ostensibly dealing in mutual good will and the milk of human kindness have noticed that the possession of weapons has much to do with the course of negotiations.

WEAPONS

An employers' association may help its members, unless they are engaged in interstate commerce, to use the following weapons, among others, against labor. It may furnish strikebreakers, sometimes paying part of their wages, and sometimes providing armed protection for them. It may send spies to identify "agitators" and to warn members of nascent strikes. Through other members it may fill orders for struck establishments. It may help to develop company unions. It may induce labor leaders to leave their unions. By means of control over advertising it may exert pressure on newspapers to favor employers. It may help members to meet the unfair list with the blacklist, which is designed to make it difficult for the listed laborers to secure other jobs. It may also carry on general propaganda, influence legislation, and help to fight court battles against labor.

Associations of employers have behind them a long tradition—in which there have been fortunate breaches in recent years—of carrying the philosophy of *laissez faire* as far as they can carry it to their own advantage. Their technique in fighting unions has resembled the so-called "Mohawk Valley Formula," which was evolved in 1937 by Remington Rand, Inc., in the course of its struggle with its employees. In advance of the strike the company employed a number of experts in strikebreaking, and the formula used by experts, as it was described by the National Labor Relations Board,² ran as follows:

First: When a strike is threatened, label the union leaders as "agitators" to discredit them with the public and their own followers. In the plant, conduct a forced balloting under the direction of foremen in an attempt to ascertain the strength of the union and to make possible misrepresentation of the strikers as a small minority imposing their will upon the majority. At the same time, disseminate propaganda, by means of press releases, advertisements and the activities of "missionaries," such propaganda falsely stating

² *In the Matter of Remington Rand, Inc., and Remington Rand Joint Protective Board of the District Council Office Equipment Workers.* Decision of the National Labor Relations Board, March 13, 1937. Cited by E. Stein, *et al.*, *Labor Problems in America*. New York: Farrar & Rinehart, Inc., 1940, pp. 525-528.

the issues involved in the strike so that the strikers appear to be making arbitrary demands, and the real issues, such as the employer's refusal to bargain collectively, are obscured. Concurrently with these moves, by exerting economic pressure through threats to remove the plant, align the influential members of the community into a cohesive group opposed to the strike. Include in this group, usually designated a "Citizens Committee," representatives of the bankers, real estate owners and business men, *i.e.*, those most sensitive to any threat of removal of the plant because of its effect upon property values and purchasing power flowing from payrolls.

Second: When the strike is called raise high the banner of "law and order," thereby causing the community to mass legal and police weapons against a wholly imagined violence and to forget that those of its members who are employees have equal rights with other members of the community.

Third: Call a "mass meeting" of the citizens to coordinate public sentiment against the strike and to strengthen the power of the Citizens Committee, which organization, thus supported, will both aid the employer in exerting pressure upon the local authorities and itself sponsor vigilante activities.

Fourth: Bring about the formation of a large armed police force to intimidate the strikers and to exert a psychological effect upon the citizens. This force is built by utilizing local police, State Police if the Governor cooperates, vigilantes and special deputies, the deputies being chosen if possible from other neighborhoods, so that there will be no personal relationships to induce sympathy for the strikers. Coach the deputies and vigilantes on the law of unlawful assembly, inciting to riot, disorderly conduct, etc., so that, unhampered by any thought that the strikers may also possess some rights, they will be ready and anxious to use their newly-acquired authority to the limit.

Fifth: And perhaps most important, heighten the demoralizing effect of the above measures—all designed to convince the strikers that their cause is hopeless—by a "back to work" movement, operated by a puppet Association of so-called "loyal employees" secretly organized by the employer. Have this Association wage a publicity campaign in its own name and coordinate such campaign with the work of the "missionaries" circulating among the strikers and visiting their homes. This "back to work" movement has these results: It causes the public to believe that the strikers are in the minority and that most of the employees desire to return to work, thereby winning sympathy for the employer and an indorsement of his activities to such an extent that the public is willing to pay the huge costs, direct and indirect, resulting from the heavy forces of police. This "back to work" movement also enables the employer, when the plant is later opened, to operate it with strikebreakers if necessary and to continue to refuse to bargain collectively with the strikers. In addition, the "back to work" movement permits the employer to keep a constant check on the strength of the union through the number of applica-

tions received from employees ready to break ranks and return to work, such number being kept secret from the public and other employees, so that the doubts and fears created by such secrecy will in turn induce still others to make applications.

Sixth: When a sufficient number of applications are on hand, fix a date for an opening of the plant through the device of having such opening requested by the "back to work" Association. Together with the Citizens Committee, prepare for such opening by making provision for a peak army of police by roping off the areas surrounding the plant, by securing arms and ammunition, etc. The purpose of the "opening" of the plant is threefold: to see if enough employees are ready to return to work; to induce still others to return as a result of the demoralizing effect produced by the opening of the plant and the return of some of their number; and lastly, even if the manoeuvre fails to induce a sufficient number of persons to return, to persuade the public through pictures and news releases that the opening was nevertheless successful.

Seventh: Stage the "opening," theatrically throwing open the gates at the propitious moment and having the employees march into the plant grounds in a massed group protected by squads of armed police, so as to give the opening a dramatic and exaggerated quality and thus heighten its demoralizing effect. Along with the "opening" provide a spectacle—speeches, flag raising, and praises for the employees, citizens and local authorities, so that, their vanity touched, they will feel responsible for the continued success of the scheme and will increase their efforts to induce additional employees to return to work.

Eighth: Capitalize on the demoralization of the strikers by continuing the show of police force and the pressure of the Citizens Committee, both to insure that those employees who have returned will continue at work and to force the remaining strikers to capitulate. If necessary, turn the locality into a warlike camp through the declaration of a state of emergency tantamount to martial law and barricade it from the outside world so that nothing may interfere with the successful conclusion of the "Formula," thereby driving home to the union leaders the futility of further efforts to hold their ranks intact.

Close the publicity barrage, which day by day during the entire period has increased the demoralization worked by all of these measures, on the theme that the plant is in full operation and that the strikers were merely a minority attempting to interfere with the "right to work," thus inducing the public to place a moral stamp of approval upon the above measures. With this, the campaign is over—the employer has broken the strike.

PROBLEMS

1. Suggest some modern fields of economic activity in which many or most of the people receiving income work for themselves.

2. Explain the development of separate classes of employers and wage earners in industry.

3. "The competition of employers for the services of laborers guarantees laborers in getting as much as they earn. Hence the real purpose of labor organization is to transfer to laborers part of what the employers earn."

In order to discuss this proposition, first assume that what laborers "earn" is their "marginal products." (See Chapter II.) When you have completed the discussion on this basis, debate the question of whether your original assumption was correct.

4. Discuss the comparative merits of (a) local unions and national unions; (b) company unions and regular unions; (c) craft unions and industrial unions.

5. Discuss the consequences of collective bargaining between a national employers' association and a national industrial labor union in the same industry.

6. Of an act forbidding the journeymen tailors of London to combine into a union, Adam Smith said: "Whenever a legislature attempts to regulate the differences between masters and their workers, its counsellors are always the masters." Discuss.

7. Speaking of labor organizations, Daniel Webster once stated that he was inclined "to oppose vigorously and unceasingly all unlawful combinations or associations of men working in darkness and striving to obtain for themselves by combination and concert advantages not enjoyed by other citizens of the Republic." Discuss.

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VII

FINANCE: *MONEY AND CREDIT*

Those who made and worked this system have normally not understood it as a whole; those who have come nearest to understanding it, the academic economists, have not made it and do not direct it.—SIR ARTHUR SALTER.¹

THE DESCRIPTION of our economic organization now turns to the monetary system, that is, to the system of money, credit, and banking. Money has been described as an article which can be used universally as "a passport to everything but heaven and a provider of everything but happiness." From the point of view of an individual this characterization is apt enough, but the importance of money to society is better understood by contemplating the results of monetary misbehavior. Of the consequences of bad coinage, for example, Macaulay said:

It may well be doubted whether all the misery which had been inflicted on the English nation in a quarter of a century by bad kings, bad ministers, bad Parliaments, and bad judges was equal to the misery caused by bad crowns and bad shillings. . . . The misgovernment of Charles and James, gross as it had been, had not prevented the common business of life from going steadily and prosperously on. . . . But when the great instrument of exchange became thoroughly deranged, all trade, all industry, were smitten as with a palsy.²

Thus the significance of money lies in these facts: that specialization is vital to social economy, that exchange is indispensable to specialization, and that money is "the great instrument of exchange." Money may be defined tentatively as a tool which is widely used in effecting the exchange of goods. But the meaning of the definition is to be found in the study of the functions which money performs as an instrument of exchange.

¹ *Recovery: The Second Effort*. New York: D. Appleton-Century Company, Inc., 1932, p. 17.

² Cited by H. G. Moulton, *Financial Organization* (1925), p. 64.

The Functions of Money

Money serves primarily as a medium of payments and a measure of values. Derived from the primary functions are the secondary functions of serving as a standard of debt payments and as a store of value. The significance of these functions may be suggested by contrasting an economy which makes full use of money with a backward economy such as that which is illustrated below:³

Some years since, Mademoiselle Zélie . . . gave a concert in the Society Islands. In exchange for an air from *Norma* and a few other songs, she was to receive a third part of the receipts. When counted, her share was found to consist of three pigs, twenty-three turkeys, forty-four chickens, five thousand cocoa-nuts, besides considerable quantities of bananas, lemons, and oranges. At the Halle in Paris, . . . this amount of live stock and vegetables might have brought four thousand francs. . . . In the Society Islands, however, pieces of money were very scarce; and as Mademoiselle could not consume any considerable portion of the receipts herself, it became necessary in the meantime to feed the pigs and poultry with the fruit.

Here we have an imperfect example of a barter economy, an economy in which goods are traded directly for goods without the use of money as a go-between. Money may have been used as a common measure in reckoning the values of pigs, turkeys, and so on, but apparently it was seldom used as a medium of payments. Mademoiselle could not trade songs for money to exchange for such goods as she might want. And clearly the barter arrangement would have reduced the size of her audience if she had been driving a bargain. In that case she would have accepted only what she could use or readily exchange for what she could use. To illustrate, should she accept three pigs in the expectation of exchanging them for a gown? In order to effect this exchange, a pig owner who wanted a gown and a gown owner who wanted pigs would have to get together. Technically speaking, there would have to be a "double coincidence of wants." And the two owners might still fail to effect a trade because pigs and gowns are not readily divisible.

MONEY AS A MEDIUM OF PAYMENTS

A situation similar to this existed in late colonial times in our own country. Such coins as reached America from England were rapidly drained out again because the colonies imported more than they exported. Therefore taxes, debts, wages, and so on, were commonly paid in produce, at rates fixed by law for each kind of produce. Thus it was in

³ From W. S. Jevons, *Money and the Mechanism of Exchange*. New York: D. Appleton-Century Company, Inc., 1894, Chap. I.

produce that the Reverend Mr. Cotton of Plymouth took his salary in 1667, and it is related that shortly before the Revolutionary War a Harvard student, who was later to become president of the University, paid his tuition with an old cow. There was a general measure of values, since produce could be reckoned in shillings, but there was not a satisfactory medium of payments. What was needed was money, for money is used, not for the direct satisfaction of wants, but as something which can be exchanged for goods in general. It is "generalized purchasing power" because it possesses the quality of general acceptability in exchange for goods. It eliminates the difficulty of the double coincidence of wants by enabling one person to exchange X for Y without finding somebody else who will exchange Y for X. It also prevents the indivisibility of valuable objects from presenting a serious problem, since the money received for a comparatively valuable object can be spent for several objects.

MONEY AS A MEASURE OF VALUES

Money serves as a measure of values by providing a common denominator in which the values of different goods can be expressed. Just as we compare the values of fractions by reducing the fractions to a common denominator, so do we compare the values of different goods by expressing them in terms of a common unit of value. Otherwise every commodity would have exchange values as numerous as the commodities for which it was exchanged. Where, however, exchange values are expressed as multiples or fractions of a common unit, each commodity tends to have, at any moment in a given market, a single exchange value, a single "price."

The common unit of value is the *monetary unit*, or unit of account. It is not actual money of any kind. Instead of being itself a measure, it is merely the name of a measure, just as "one yard" is merely the name of a measure. Examples of the monetary unit are the American dollar, the British pound sterling, the German mark, the Mexican peso.

The quantity of generalized exchange value which the unit implies is equal to the exchange value of *monetary standard*. In a country which is on the gold standard the monetary unit signifies an exchange value equal to that of a certain amount of gold of a given fineness. Before its devaluation in 1934, the American dollar signified an exchange value equal to that of 25.8 grains of gold .9 fine; it now signifies an exchange value equal to that of 59.06 per cent of this amount, or $15 \frac{5}{21}$ grains of gold .9 fine. Consequently one ounce of pure gold, which used to be worth \$20.67 in exchange for goods in general, is now worth \$35.00.

It will be noted that the monetary standard, although it is the standard measure of values, is not money. Therefore actual money, of which there are several kinds in most monetary systems, is used as a measure of values in an indirect way. The general principle is this: There is certain *standard money* whose unit exchange value (exchange value per dollar, in the United States) is kept equal to the exchange value of the monetary standard, and the unit exchange value of every other kind of money is kept equal to the unit exchange value of standard money. The "parity," or fixed ratios of exchange value, of standard money to the monetary standard, and also of other types of money to standard money, is maintained by convertibility or some other device. In the United States, until 1933, standard money usually meant gold dollars. While no such actual gold coin as a dollar circulated, multiples of gold dollars circulated in the form of either coins or gold certificates. At present our standard money is the paper dollar *internally*, or within our country, while *externally* it is the gold dollar, that is, a dollar's worth of gold. Dollars can be converted into gold for monetary use outside the United States but not for such use within the United States.

MONEY AS A STANDARD OF DEBT PAYMENTS

Money serves also as a standard of postponed payments. That is, debts which are incurred by borrowing or buying on credit are essentially promises to pay later in the form of money. Loans might be made and repaid in the form of specific goods, but this form would prove unsatisfactory in several respects. Borrower and lender would have to agree on the specific kinds and qualities of goods to be loaned, and also on the specific kinds and qualities of goods to be repaid. (The "lend-lease" transactions between Britain and the United States might be used to illustrate this point.) Savings taking the form of commodity stocks would prove very awkward. Besides, the exchange value of any particular commodity is normally subject to more violent fluctuations than is the value of money in exchange for commodities in general. It is only *legal tender* money which a creditor is legally obliged to accept at face value in payment of a debt stated in terms of money. Refusal by the creditor to accept it terminates the obligation of the debtor to pay interest. In the United States all types of money except bank checking deposits (demand deposits) now have full legal tender powers.

MONEY AS A STORE OF VALUE

Between the receipt of money in exchange for goods and the further exchange of the money for other goods there is a more or less extended

interval of time. During this interval the money is serving not as a medium of exchange but as a store of value, a store of purchasing power. The longer such intervals are, that is to say, the slower is the circulation of money, the more is money being used as a store of value and the less as a medium of exchange. A store of anything valuable which is held out of use is commonly termed a "hoard" and the act of holding it is commonly termed "hoarding." In the nature of the case, some hoarding is unavoidable. And, as it is inconvenient to accumulate and dispose of hoards of commodities, even such articles as jewels, hoards typically take the form of money.

In economically backward regions a great deal of coin is hoarded. India, for example, absorbs so much coin in this way that it has been called a "sink hole." In countries like our own people normally prefer to hold wealth in some form, such as securities or savings-bank deposits, which will yield them income, as hoarded money will not. Yet some pocket money is constantly being held ready for use and much larger sums are being held in the form of checking deposits at commercial banks. In short, there is always some hoarding. When prices are falling heavily, as they do during any general depression, this hoarding is greatly intensified. Then people, if they still trust the banks, tend to hold bank balances in idleness—to slow down the turnover of these deposits in exchange for goods. Thus they aggravate the decline of prices and contribute to a "spiral of deflation." If they lose confidence in the banks, they further accentuate deflation by withdrawing cash. The result, as our later study of commercial banking will show, is to cause a more than proportionate decrease of bank deposits which are used as money, and matters may be made still worse by bank failures.

Kinds of Money

EVOLUTION OF MONEY

Shortly after our Revolutionary War the country of "Frankland," consisting of three eastern Tennessee counties which had declared their independence from North Carolina, adopted a currency which was at least hard to counterfeit.⁴ A pound of sugar was to pass as one shilling, a raccoon skin as two, and a gallon of peach brandy as three. Strange as this arrangement may seem, the long evolution of money seems to have begun with a similar currency. Many consumable commodities, among them cattle, salt, tobacco, furs, hides, and cloth, have been used as money. It is inconvenient, however, to store and transport such commodities, which must also be withdrawn from consumption while they are being

⁴ See Willis Mason West, *History of the American Nation* (1929), p. 262.

used as mediums of exchange. Thus progress has been marked by the adoption of more durable goods. Various tools and weapons have been used, and so also have such ornamental objects as beads and shells. These were more easily stored and transported than consumption goods, they were more readily shifted between monetary and other uses, and they possessed more appeal for purposes of display. To avoid the waste of withdrawal from ordinary uses, some communities began the substitution of tokens for actual tools and weapons.⁵ Thus the Chinese substituted miniatures for the heads of hoes, and in place of copper knives, which were once carried as money by means of rings on the hilts, they gradually evolved the "cash," a round copper coin with a square hole in it which represented the ring on the real knife.

In time money came to be composed predominantly of metals, which excel in being durable, transportable, divisible, malleable, and attractive. For three thousand years extending down to the time of Alexander the Great, the Egyptians used copper, characteristically in the form of rings. Silver and gold, already in wide use by about 700 B. C., were thrown into circulation in greatly increased quantities by Alexander's conquest of the East, a little before 300 B. C. These two have been the outstanding money metals ever since the time of Christ. Until coinage was introduced, they circulated by weight. State coinage, wherever it supplied standardized units of money, relieved individuals of the inconvenience of weighing and assaying pieces of metal. Further, it proved to be the entering wedge of a series of developments which drove a wider and wider gap between money and money metal.

With the introduction of the "full-bodied" coin, which actually contained metal worth the face value of the coin, people began to think of money, not just as units of the valuable commodity of which the money was composed, but as units of generalized purchasing power. Thenceforward the exchange value of money became less and less dependent on the exchange value of precious metal as a commodity. Later came the coin based partly on credit. Its face value was greater than the value of the metal which it contained, but the issuing authority undertook to redeem it on request in either bullion (uncoined metal) or full-bodied coin worth the face value in question. The use of overvalued coins reduced expenses in the mining, assaying, minting, storing and transporting of precious metals, but in doing so it sharpened the distinction between money and money metal. A further separation between the two was marked by the coming of the paper-money note, which usually held

⁵ See G. F. Luthringer, L. V. Chandler, and D. C. Cline, *Money, Credit and Finance* (1938), pp. 30-31.

forth the promise of the issuing government or bank to redeem it on demand in full-bodied coin or bullion. With the development of commercial banking came the increasing substitution of checking deposits for all other forms of money as a medium of exchange.

The connection between checking deposits and precious metal is remote indeed. It is true that the deposits are redeemable on demand in legal tender money. But they are seldom redeemed. Instead, they are used for money by means of checks which transfer ownership in them from person to person. As a medium of large payments they offer great advantages. They eliminate the danger and inconvenience of storing, carrying and counting large sums of coins and bills of various denominations; and on being endorsed by payees they serve as receipts for payment. About nine-tenths of all business in our country is transacted with checking deposits. Today our money has so far lost its earlier status as a commodity that the legal tender money in which bank deposits may be redeemed cannot in its turn be converted into gold for monetary use in the United States. And in fact gold, although it is the monetary standard, has much less to do with the value of the bank-deposit dollar than bank-deposit dollars have to do with the value of gold, as we shall see in Chapter XX.

CLASSIFICATION OF MONEY

The nature of our monetary system may be clarified by distinguishing three general classes of money. These are full-bodied money, representative full-bodied money, and credit money.

Full-bodied money consists of coins each of which contains metal whose value as a commodity equals the face value of the coin. To illustrate, the gold in a five-dollar gold piece, while we still had gold coins, was worth five dollars as bullion. As long as our government turned gold bullion into coins almost free of charge and coins could also be converted into bullion at little expense, there could not be much difference between the money value and the commodity value of gold. If the exchange value were greater in either form than in the other, the concentration of the use of gold on the more valuable form would eliminate the difference. Thus gold tended to be equally valuable per ounce in its industrial and its monetary uses. In 1933 the government stopped coining gold, but without substantially changing this situation. It suffices for the government to fix the mint price, now \$35 an ounce, and to buy or sell gold freely at this price. In the industrial market, buyers will not pay more than \$35 an ounce when they can get gold for \$35 an ounce from the

government, and sellers will not take less than \$35 an ounce when they can get \$35 an ounce from the government.

Representative full-bodied money consists of pieces of paper each of which is essentially a receipt for full-bodied money or bullion having a commodity value equal to the face value of the receipt. The equivalent of the receipt is deposited with the federal Treasury. Gold certificates are the only representative full-bodied money in our country. Thus, a five-dollar gold certificate is a receipt for five dollars' worth of gold held by the government. Only the federal reserve banks, described at a later point, may now hold gold certificates.

Credit money is any kind of money, except representative full-bodied money, whose value as money exceeds the value of the material which it contains. For example, a federal reserve note which will buy five dollars' worth of goods contains paper of negligible value as a commodity. Credit money consists of two general types, government credit money and bank credit money, and there are different kinds of each type.

GOVERNMENT CREDIT MONEY

Government credit money consists of two main kinds: circulating *notes*, or paper money, and token *coins*.

The government notes of a country which is on the gold standard are not necessarily redeemable in gold. The government may only undertake to keep them at par with standard money. When they are used by governments in financing wars they are typically not redeemable in gold, since the quantity capable of being redeemed could not be very great. Our United States notes (greenbacks) were originally irredeemable but were later made redeemable. The government issued \$450,000,000 of them during the Civil War period, when they were irredeemable. Subsequently about one-fourth of them were redeemed and retired from circulation, the remainder being retained and backed up by \$150,000,000 in gold. Some Treasury Notes of 1890, redeemable in either gold or silver, were issued to pay for government purchases of silver, but most of them have been retired.

Government token coins, such as our fractional silver pieces and nickels, have several useful characteristics. Their small denominations render them convenient for small purchases and for making change. The limitation of their amount helps to maintain their parity with other forms of money. The fact that their face value is greater than their value as metal has two useful results. First, their size is great in comparison with their value, so that they are less easily lost than they otherwise would be. Second, it is not worth while to melt them down in order to sell the

metal which they contain. The absence of this protection caused the disappearance of much coin around 1850. Our silver dollars are essentially token coins. That is, they are "overvalued," since their face value exceeds their metal value. For the most part they circulate in the form of silver certificates, which are, therefore, representative token money.

BANK CREDIT MONEY

Banks put out two kinds of exchange medium which are so widely acceptable that it is fair to regard both as money. These are, first, circulating *notes*, and, second, the demand *deposits* of commercial banks.

A bank note is the promise of the issuing bank to pay, on demand, legal tender money, not including notes of the bank itself. Or, from the standpoint of the holder of the note, a bank note is a claim on such money. It is now rare for ordinary commercial banks to issue bank notes. The privilege has been concentrated almost wholly on "central banks," such as the Bank of England and the twelve federal reserve banks of the United States. The security behind the notes, that is, the thing which backs up the promise to pay, varies from country to country. Our federal reserve notes must be secured up to at least 40 per cent of their face value in gold, although in emergency this requirement may be reduced. As noted above, the gold itself is held by the government, and the reserve banks hold an equivalent amount of gold certificates. The remaining 60 per cent may be secured by business obligations or government obligations, subject to conditions laid down by our federal banking laws. In the past the security has actually consisted, as a rule, mostly of gold. Commercial banks normally keep on hand only about as much cash, including reserve notes, as they need to make payments over their counters. Anything in excess of this they deposit with their reserve banks, where it becomes part of their "reserves," or means of paying cash if they are called on to do so. In order to meet any unusual demand for cash, they get cash from their reserve banks, drawing on either deposits which they already have there or deposits which they create there by borrowing from reserve banks.

Just as bank notes are the promises of banks to pay standard money (other than the notes themselves), so are the *demand deposits* of commercial banks the promises of the banks to pay standard money. Or, from the point of view of the depositors, the deposits are claims on standard money. As the parity of deposit dollars with other forms of dollars is seldom lost, and as deposit dollars are given wide use by means of checks, demand deposits are essentially a form of money. However, *time deposits*, or savings which are withdrawable only after they have been

left on deposit for a designated period of time, are not commonly used as a medium of payments, and therefore they are not to be classified as money. Banks must maintain reserves of "lawful money" against deposits as well as notes. The nature of reserve requirements is further considered when we come to discuss the lending function of commercial banks.

The way in which checking deposits are made to serve as money may be briefly indicated as follows. Let us begin by supposing that a depositor, A, draws on his bank a \$10 check payable to B, who accepts the check, in place of standard money, because he has confidence in A and A's bank. In this transaction \$10 of deposits serve as money. Now B, in turn, wants to pay \$10 to C. If he does this by cashing A's check and turning the cash over to C, it is cash which serves as money. But suppose B makes the payment by depositing A's check and making out a fresh check of his own to C. Then, assuming that C accepts the check, it is again \$10 of deposits which serve as money. In fact, however, a given check may pass from hand to hand several times as a medium of exchange. Thus, B may pay C by endorsing A's check. The endorsement may take either of two general forms. On the one hand, B may write, over his signature on the back of the check, "Pay to C," so that C alone can cash or deposit the check. On the other hand, B may make his endorsement general by simply signing his name on the back of the check. In this case anybody gaining possession of the check may cash or deposit it. In turn, C, or whoever the bearer may be, may circulate the check still further by a similar process of endorsement. Each receiver of the check is protected by the prior endorsements. This can go on as long as the parties are known and trusted by one another, provided also that the denomination of the check does not become an inconvenience in making payment. Banks also make the use of checking deposits more extensive by means of a process of "clearing," or cancellation of debts and credits, which is described below.

Credit and Credit Instruments

It was pointed out above that money has taken on more and more the character of credit money. The exchange of valuable goods for such money is one species of credit transaction. We turn now to the more general genus to which this species belongs.

NATURE OF CREDIT

The characteristic feature of a credit transaction is the exchange of valuable goods or purchasing power at a given time for a promise of

repayment at a later time. Thus, a dealer exchanges merchandise for a promise to repay later, or a lender exchanges funds for a similar promise. Here the dealer or lender grants a "credit" and is termed a "creditor," while the buyer or borrower contracts a "debt" and is termed a "debtor." We have seen that the usual standard of debt payment is money, not specific commodities. A credit transaction is based on trust in the sense that the creditor must have faith in the ability and willingness of the debtor to repay. Since a contractual right to repayment cannot be enforced against a debtor who is unable to repay, the creditor may require the debtor to "secure" the debt by pledging land or equipment or other assets as "security." Yet even a secured debt is normally unacceptable to the creditor unless he trusts the debtor to repay him voluntarily instead of putting him to the trouble of a lawsuit.

KINDS OF CREDIT

Credit transactions may be classified according to the kinds of debtors. To illustrate, *public credit* is granted to public bodies, or governmental units, while *private credit* is granted to private individuals and business enterprises. Again, credit transactions may be classified according to the uses of credit. For example, *consumption credit* is used to buy consumption goods, such as dwelling houses and radios, while *production credit* is used for the purchase of production goods, such as land, factory equipment, and stocks of raw materials or finished products. Or credit transactions may be classified according to the length of time which credits and their corresponding debts run. Thus, to use approximations, *short-term credit* runs for any period up to a year; *intermediate-term credit*, from one to five years; and *long-term credit*, for five years or longer. The use of one basis of classification need not exclude the use of others. For instance, a ten-year credit granted to a private company for purposes of carrying on production would be a private long-term production credit.

The life span of a credit which is used to buy production goods is often adjusted to the length of time required for the production goods in question to "liquidate the debt," that is, to earn enough to pay the debt. To illustrate: One may borrow on short term to buy merchandise which will be sold in thirty to ninety days; on intermediate term, to buy a farm tractor which will pay for itself in four or five years; on long term, to buy equipment which will not cover its cost in less than eight or ten years. To this sort of adjustment, however, there are many exceptions. What actually happens depends largely on actual and expected relations between interest rates on credits of different lengths. If long-

term rates seem abnormally high in comparison with short-term rates, the producer who wishes to buy highly durable equipment is inclined to borrow on short term, counting on borrowing again when his short-term debt falls due. If, when this debt falls due, the long-term rate has fallen sufficiently in relation to the short-term rate, he will borrow on long term; otherwise, he will borrow on short term. In the contrary situation, or where it is short-term rates which are believed to be relatively too high, it is common to borrow on long term to finance short-term transactions, such as acquiring and disposing of inventory merchandise.

CREDIT INSTRUMENTS

Credit instruments, such as corporation bonds and bank checks, are legal records of the existence and terms of credit transactions. As such, they are legal claims on money. They may be used directly as mediums of exchange. This happens when the holders of these claims exchange the claims themselves for goods, instead of first turning the claims into money and then trading the money for goods. Short-term credit instruments are widely used in this way, but long-term credit instruments are rarely exchanged for goods without first being exchanged for either money or short-term credit instruments. Credit instruments take the form of either promises to pay or orders to pay.

To illustrate the leading kinds of credit instrument, let us begin by assuming that a dealer sells you an automobile for \$1,000. The dealer may require you to give him your *promissory note*, that is, your written promise to pay him the principal either on demand or by a certain date and to pay interest meanwhile at a given rate. In the present case a given date probably will be specified. But sometimes, and especially in the case of "call" loans made by banks to brokers for the purpose of buying securities on stock exchanges, the debtor is required to give a promissory note which is payable on demand.⁶ Any written promise to pay is essentially a promissory note. Thus, the bonds issued by corporations and governmental units are long-term promissory notes. Instead of giving the dealer your promissory note, you may pay by borrowing on promissory note from a bank. In either case you will probably discharge

⁶ This is where securities are bought "on margin." To illustrate: A customer buys from a broker and "puts up a margin," that is, puts up only part of the purchase price. Thus the broker really lends the customer the difference between the purchase price and the margin; and, in order to be able to do this, the broker in his turn borrows from a bank. Since a decline in the value of the securities in question would decrease the ability of the customer to pay the broker the remaining debt, and would therefore decrease the ability of the broker to repay his loan, the bank requires a demand promissory note as a measure of protection to itself.

your obligation by means of *checks*. We have already considered the nature of these orders to pay.

The dealer may draw a *commercial draft* (also called a commercial bill or a trade bill) on you, ordering you to pay him or somebody designated by him. The draft is a "sight draft" if it orders you to pay it as soon as you receive it. If it gives you time, such as thirty, sixty, or ninety days, it is a "time draft." In this case you are required to "accept" the draft, that is, to make formal acknowledgment of the debt. You can do so by writing "accepted" over your signature on the face of the draft; and then the draft becomes a "trade acceptance." If your bank draws on a second bank, ordering it to pay your dealer, there is a *bank draft*, or bankers' bill, which, if it is a time draft, becomes a "bank acceptance" when it is accepted by the bank on which it is drawn. Drafts (bills) used in international trade are commonly called *foreign bills of exchange*. As in domestic trade, there are both commercial and bankers' bills, and the corresponding acceptances. Accompanying a commercial draft, domestic or foreign, may be a *bill of lading*, a receipt which is given by a transportation agency for goods entrusted to it for shipment, and which gives the holder of the receipt title to the goods. The consignee to whom the goods are shipped must pay or accept the draft in order to get the bill of lading.

Credit instruments are rendered more readily transferable by being made *negotiable*. This is accomplished by so drawing or endorsing them that they are payable to bearer, or to order.

COMMERCIAL PAPER

The term "commercial paper" will be used hereafter in the broad sense of both drafts and promissory notes of short term which are employed to finance the production, distribution and sale of goods. But the term may be used in the more restricted sense of certain short-term promissory notes employed in this sort of financing. When this is the case, two general types are distinguished: customers' commercial paper, and open-market commercial paper. Customers' commercial paper, which is much the larger in volume, typically arises from loans made by banks to their own customers. Open-market commercial paper typically consists of short-term promissory notes issued by large business firms and sold, usually with the assistance of commercial paper houses (discussed at a later point), on the "open market," that is, to any investors who care to buy them. Subject to "eligibility" requirements prescribed by our banking laws, commercial banks may use commercial paper as a basis for borrowing from federal reserve banks.

CREDIT INSTRUMENTS AND BANKING

The relations between credit and the institutions of banking and investment are given fuller consideration in the next two chapters. As parts of "the great instrument of exchange" bank checks are especially important because they serve to put into use the demand deposits which actually constitute most of our medium of exchange. The position of demand deposits as money is the central theme of our later study of commercial banking.

PROBLEMS

1. From your study of our economic system in earlier chapters, explain why all trade and industry probably would be "smitten as with a palsy" if "the great instrument of exchange" should become "thoroughly deranged."
2. Using actual illustrations where you can:
 - (a) Explain the use of money as a measure of values but not as a medium of payments;
 - (b) Explain whether money could be used as a medium of payments without its being used at the same time as a measure of values;
 - (c) Describe the inconveniences of barter, and indicate how the use of money tends to eliminate them;
 - (d) In relation to the use of money as a measure of values, explain the meaning of *monetary unit*, of *monetary standard*, and of *standard money*;
 - (e) Discuss the use of money as a standard of deferred payments, indicating the significance of *legal tender*;
 - (f) Discuss the relationship between the use of money as a medium of payments and the use of money as a store of value.
3. Briefly describe the historical evolution of money, indicating how money has become more and more widely separated from its original status as a commodity.
4. Explain and illustrate the meaning of: (a) full-bodied money and representative full-bodied money; (b) the tendency of the mint price and the market price of gold to be equal in the United States; (c) government credit money; (d) bank credit money.
5. Explain the essential characteristic of a credit transaction. Where credit is a good thing, is debt a bad thing?
6. Indicate the essential common characteristic of credit instruments.
7. Classify credit instruments according to use and according to form.
8. Describe the following credit instruments: promissory notes; commercial drafts (trade bills) and bank drafts (bankers' bills); trade acceptances and bank acceptances; commercial and bankers' foreign bills of exchange.

REFERENCES

See the list at the close of Chapter VIII.

VII

FINANCE: COMMERCIAL BANKING

From *The Mystery of the New fashioned Goldsmiths or Bankers*, published in 1676: "Having thus got Money into their hands, they presumed upon some to come as fast as others was paid away, and on that confidence of a running Cash (as they call it) they begun to accommodate men with moneys for Weeks and Moneths, upon extraordinary gratuities, and supply all necessitous Merchants that overtraded their Stock, with present Money for their Bills of Exchange, discounting sometimes double, perhaps treble interest for the time, as they found the Merchant more or less pinched."¹

THE MANY activities of our thousands of individual financial institutions are broadly divisible into two types. On one side is the general business of acting as an intermediary, or middleman, between savers and borrowers. On the other is the general business, not merely of lending to some persons what other persons have saved, but of creating and destroying bank money. The two types of activity represent two radically different types of loan. In the case of the first type, deposits of existing money give rise to loans. Engaged in this type of activity, in various capacities, are several types of investment institutions which are discussed briefly at the close of the next chapter. In the case of the second type of activity, loans give rise to deposits which are used as money. Engaged in making loans which create checking-deposit money are commercial banking institutions. This combination of lending with the creation of money is not unavoidable, and it has not always existed. During the Middle Ages the two functions were frequently if not commonly separate, the political authorities controlling the amount of money while the bankers, among other activities, made loans which did not directly affect the amount of money. In the long history of banking, the making of loans which create money instead of merely transferring it is a comparatively modern development, but today it is an outstanding feature of commercial banking.

¹ Cited by Clive Day, *A History of Commerce* (1925), p. 151. Longmans, Green & Co., New York.

Bank Loans and Bank Money

The object of this section is to present an outline in the light of which the later description of our commercial banking system can be seen as a coherent whole. The outline deals with the more general principles of checking-deposit money. For the sake of simplicity, it takes the form of hypothetical situations. As a point of departure, we assume that the people of a self-sufficient economy have been using \$100,000 of cash as their only form of money. The cash consists of coins and notes issued solely by the political state. The people decide to establish a commercial bank. Having made provision for all necessary equipment and personnel, an operation which has affected the personal distribution of cash but not its amount, they deposit the whole \$100,000 at the bank. In return for his cash everyone receives an equivalent deposit credit, which is payable, on demand, in cash. Now four situations, beginning with the simplest, are considered. In the first, we have a single commercial bank, and it maintains a cash reserve equal to 100 per cent of deposits. In the second, we have a single commercial bank, but it maintains a fractional reserve, that is, a cash reserve equal to less than 100 per cent of deposits. In the third, we have numerous commercial banks, each maintaining a fractional reserve. In the fourth, numerous commercial banks, with fractional reserves, are served by a central bank.

FIRST SITUATION: ONE COMMERCIAL BANK, 100 PER CENT RESERVE

The amount of "money," meaning mediums of payment being used to exchange goods, is not affected by the establishment of a bank which maintains a cash reserve equal to 100 per cent of its demand deposits. In making payments, deposit credits can be transferred from person to person in place of cash. But this affects only the form of money, not the amount. A certain amount of deposit credit merely replaces the same amount of cash as a medium of payments. The bank cannot increase the amount of money by lending. Indeed, it cannot lend at all, except in the sense that it acts as a middleman in transferring existing money from savers to borrowers. In other words, it acts as a legal agent in transferring deposit credits from the accounts of certain persons to the accounts of others, and the amount of deposit credits is not changed. If the borrowers now exercise their right to demand cash for deposit credits, so much cash replaces the same amount of deposit credit as a medium of payments, and the amount of money in use is still unaffected. Where the cash reserve must equal 100 per cent of the deposit credit, it is

axiomatic that the amount of deposit credit cannot exceed the amount of the cash reserve.

SECOND SITUATION: ONE COMMERCIAL BANK, FRACTIONAL RESERVE

After our bank has been in operation for a time it is found, we assume, that in making payments nine dollars of deposit credit are used to every dollar of cash. At all times there are some persons who, finding their ratio of cash to deposit credit lower than they desire, are taking cash from the bank in exchange for deposit credit, while there are other persons who, finding themselves in the opposite position, are bringing cash to the bank in exchange for deposit credit. For the present we assume, however, that the bank is getting back the same amount of cash which it is paying out. Thus \$10,000 of cash and \$90,000 of deposit credit are being used as mediums of payment, and the bank constantly has \$90,000 of cash behind its \$90,000 of demand obligations in the form of deposit credit. It is now decided to lower the minimum cash reserve requirement from 100 per cent to 10 per cent of deposits. The minimum cash reserve performs two related functions: it meets demands for cash, and it serves to control the total amount of money.

To explain demands for cash, we must first recur to the fact that cash is always flowing into and out of the bank. At any given time, that is, some people want less cash and more deposit credit, while others want less deposit credit and more cash. Now, if the inflow and outflow were constantly equal, as assumed above, the bank would not have to hold cash in reserve to take care of the outflow. The demand for cash would be constantly met by the supply of inflowing cash. But the inflow and outflow per unit of time may not be equal. The demand for circulating cash, or cash which circulates from hand to hand as a medium of payments, may rise, and for either of two general reasons. First, in the transaction of the economy's business the ratio of cash payments to deposit-credit payments may increase. It does increase in farming regions during the harvesting season, in manufacturing centers around pay days, and throughout the whole country during weekends and holidays, especially at the Christmas season. It increases also when business depressions are frightening people into hoarding more cash. Second, the demand for circulating cash may rise because of bank *loans*. This brings us to the central point of the present discussion.

Once it is permitted to hold a fractional reserve, our bank can make loans which, instead of merely transferring money from person to person, increase the total amount of money. Let us illustrate. The bank is holding, we have assumed, \$90,000 of cash against the same amount of

deposit credit. Since it is required to hold cash equal to only 10 per cent of its deposit obligations, it has a "surplus reserve" of \$81,000. It now lends, say, \$10,000. But, instead of transferring \$10,000 of existing deposit credit from the accounts of certain persons to the accounts of borrowers, it leaves the former accounts untouched and simply credits the borrowers with \$10,000 in return for their promises to pay it \$10,000 plus interest at a later time. (The matter is put in this way for the sake of round numbers. Actually, a bank would credit borrowers with \$10,000 less discount, or interest charged in advance.) Here we have an *additional* deposit credit of \$10,000, which can be used as a medium of payments. By lending, the bank has increased the total amount of money from \$100,000 to \$110,000.

As a second consequence of the loan, the demand for circulating cash is increased. Immediately after making the loan, our bank has \$90,000 of cash, as before, and it has \$100,000 of deposit obligations—the \$90,000 which it had before plus the \$10,000 created by the loan. But, as we have assumed our economy to use one dollar of cash to every nine dollars of deposit credit in making payments, the amount of cash in circulation rises from \$10,000 (one-tenth of \$100,000) to \$11,000 (one-tenth of \$110,000). In other words, the bank loses \$1,000 of cash to circulation and it cancels off the same amount of deposit credit. The money being used as mediums of payment now consists of \$11,000 of cash and \$99,000 of deposit credit. At the same time the bank has \$89,000 of cash to back its deposit obligations of \$99,000. Now obviously our bank, since it has cash equal to 89/99 of deposits, is in a position to create a great deal more money by extending its loans.

But this brings us to the second general function of the minimum cash reserve: the function of controlling the total amount of money. Apart from the fact that the demand of borrowers for credit is limited, there are two general limitations on the ability of the bank to create money by lending. One is the outflow of cash into circulation, and the other is the minimum reserve requirement. Where the reserve requirement is 10 per cent, the bank can lend only about half what it could if the creation of money did not cause it to lose any cash whatever, and it can lend about twice what it could if the ratio of circulating cash to deposit credit were twice as high as it is. Where, on the other hand, we have a given ratio of circulating cash to deposit credit, it is clear that a low reserve requirement makes for a higher maximum of bank money and that a high reserve requirement makes for a low maximum of bank money. To illustrate simply, suppose that bank loans cause no outflow of cash from the bank. Then a 10 per cent reserve requirement permits the bank

to lend twice as much as it could lend if this requirement were 20 per cent. By requiring a reserve of 100 per cent, the political state, since it is assumed to be the sole issuer of cash, could keep the maximum amount of money equal to whatever amount of cash it cared to issue and maintain.

THIRD SITUATION: NUMEROUS COMMERCIAL BANKS, FRACTIONAL RESERVES

Our third situation differs from the second in assuming that there are numerous commercial banks instead of one. Call the banks A, B, C, etc. Each is required to hold a minimum cash reserve of 10 per cent. The banks compete freely for the business of borrowers. In this situation all the banks together can support the same amount of deposits with a given amount of cash reserve as the single bank of our second situation can support with the same amount of reserve. The reason is perhaps most easily described with respect to a given amount of *additional* cash which comes into the banking system from the outside.

To illustrate, begin by assuming that each bank holds precisely the 10 per cent minimum reserve required by law; and assume further, for the sake of simplicity, that the volume of bank loans does not affect the volume of circulating cash. Now somebody takes \$1,000 of hoarded cash from, say, a hiding place in his house—not from a bank—and deposits it with A. Here we have a “primary” deposit—the creation of a deposit obligation which is matched by an equivalent accession of cash. Such a deposit must be distinguished from a “derivative deposit,” that is, a deposit obligation which is created by lending. Since both the cash and the deposit obligations of A are increased by \$1,000 as a result of this primary deposit, and since only \$100 of cash reserve has to be held against the additional \$1,000 of deposits, A has a surplus reserve of \$900. Thus A is in a position to create derivative deposits by lending. If it were the only bank, A could now expand its loans by \$9,000. Instead, it is one of a large number of banks. It remains to show why A cannot expand its loans by \$9,000 and why all the banks together can expand their loans by this amount.

Bank A probably cannot risk expanding its loans by much more than the amount of its surplus reserve, or \$900. It could go farther, of course, if it could be sure that some of the additional checks drawn against it as a consequence of its expanded derivative deposits would be deposited with it. Many of them might be so deposited if they were made out to payees located close to A. Since there are many banks, however, A can hardly count on this. Let us say that it assumes the “worst” and that it turns out to be right. In other words, it anticipates, and anticipates cor-

rectly, that whatever it now lends on the basis of its surplus reserve will be borrowed for the purpose of paying creditors who will deposit their checks with other banks. Hence it lends only \$900. The immediate result is an increase of \$900 in its derivative deposits. But in a short time the whole \$900 is checked out and deposited somewhere else, with the result that A's deposits and cash both decrease by \$900. As far as A alone is concerned, the deposit of the \$1,000 of additional cash has increased bank deposits by only \$1,000.

But this is not the outcome as far as all the banks together are concerned. A has only \$100 out of the \$1,000 of cash transferred to it from the hoard; but the \$900 which it has lost has gone to other banks—say B and C. These banks, taken together, now have surplus reserves equal to nine-tenths of \$900, or \$810. That is, their deposits and cash are both up \$900, and they need hold only one-tenth of the additional cash against the additional deposit obligations. Now, continuing our assumption that the whole of a given derivative deposit created by one bank is immediately lost to other banks, we proceed as follows: Banks B and C lend \$810, and straightway lose \$810 of deposits and \$810 of cash to still other banks—say D, E, F, and G. Next the D-E-F-G group lends nine-tenths of \$810, or \$729, and the process of "multiple expansion" goes on as before. Thus the result of taking the \$1,000 from the hoard and depositing it with A is that the deposits of A are \$1,000 greater, that the deposits of the B-C group are \$900 greater, that the deposits of the D-E-F-G group are \$810 greater, and so on, until the deposits of all the banks together are \$10,000 greater. From a primary deposit of \$1,000 the banking system as a whole has further created derivative deposits of \$9,000. Collectively the banks do just what one could do if it were the only bank. As far as the total amount of money is concerned, it makes little difference how the derivative deposits are distributed among the banks. If one bank finds that it can retain a certain proportion of its derivative deposits, or, what is much the same thing, that it can indirectly get back from other banks a certain proportion of the derivative deposits which it loses, then this bank can lend so much the more and others can lend so much the less.

Thus the process of multiple expansion relates to the system as a whole. Any net addition to the cash reserve of the system gives rise to an expansion of derivative deposits in the system. The additional reserve spreads over the system, and each bank, on gaining reserve, is disposed to lend more in order to make its additional reserve pay. Likewise a process of multiple contraction can take place in the system as a whole. Any net subtraction from the cash reserve of the system gives rise to a

contraction of derivative deposits in the system. To illustrate, say that someone takes cash from bank A, not to put it in another bank but to leave it idle in a safety vault. A has lost some of its cash reserve, and is disposed to reduce its total loans in order to redress its position. By contracting its loans it contracts its deposits. By contracting its deposits, it gains more cash or loses less cash to other banks than before. In either case, the lending power of other banks becomes smaller than it was before A lost the cash. Thus the decrease of reserve is spread over the system at large.

So far, it has been assumed that the processes of expansion and contraction are put in motion by net changes in the cash reserves of the banking system. But it should be emphasized, in conclusion, that they are also set going in another way. There are times, especially in the earlier phases of depressions, when bankers as a whole are becoming less willing to lend and business men as a whole less willing to borrow. The result is a net contraction of bank loans. Such a contraction, although moderate at first, may become violent. The reason is that any individual bank is induced to contract its loans when other banks are, on balance, contracting theirs. It makes no difference to the individual bank why the others are contracting. Whatever their reasons, the individual bank tends to lose reserve to the others unless it contracts as much as they do. To protect itself, it declines to renew some old loans and it cuts down on new loans. One contraction leads to another; and a general "struggle for liquidity" and "spiral of deflation" may develop. The banks themselves are "hoarding" in the sense that they are using less and less of their reserves as a basis for loans. There are other times, especially in the earlier phases of booms, when business men in general are growing more eager to borrow and bankers in general more eager to lend. The banks need not increase their reserves in order to expand their loans. They already have surplus reserves, and they need only "dishoard"—use as a basis for loans what they have not been so using. A net expansion of loans occurs, and it tends to multiply because any individual bank is induced to expand when others are expanding. Eventually a serious "spiral of inflation" may develop.

FOURTH SITUATION: NUMEROUS FRACTIONAL-RESERVE COMMERCIAL BANKS SERVED BY ONE CENTRAL BANK

Commercial banks are served by central banks. These "bankers' banks" hold the legal reserves of commercial banks and lend to commercial banks. To illustrate, we now assume that the numerous commercial banks of our third situation are served by one central bank. In addition

to the "till money" which they require for ordinary over-the-counter transactions, the commercial banks must maintain minimum reserves of 10 per cent. These reserves are held on deposit with the central bank. They are demand obligations against the central bank, which in its turn must hold a cash reserve against them. The question now before us is this: What is the connection between the central bank and the total amount of money? To answer it as simply as possible, we assume that the central bank can make loans only on the basis of the reserve which it holds against the deposits which the commercial banks hold with it. In other words, it has no capital funds available for this purpose. The answer to the question now depends on the minimum reserve ratio which the central bank must maintain against its deposit obligations.

If it must maintain a cash reserve of 100 per cent, the central bank cannot lend to commercial banks, except in the sense that it may act as a legal agent in lending to some of them reserves which belong to others. To illustrate, begin by supposing that bank A has already loaned so much that its reserve ratio is down to the legal minimum. It wishes to lend more, but it cannot do so without first increasing its reserve. Therefore it seeks to borrow, say, \$1,000 from the central bank. But the central bank, since it must hold a reserve equal to 100 per cent of the combined reserves of the commercial banks, cannot lend on its own behalf to A. Suppose, however, that the central bank, acting on the authorization of bank B, lends to A \$1,000 of surplus reserve possessed by B. Next A, now that it has a surplus reserve of \$1,000, lends, let us say, \$900 more to its customers. No money has been created which would not have been created if B had loaned the \$1,000 directly to A without the assistance of the central bank.

But the conclusion is radically different if the central bank is required to maintain, not a 100 per cent reserve, but only a fractional reserve against the reserves which the commercial banks hold on deposit with it. Suppose that the minimum cash reserve of the central bank is 50 per cent. Then the commercial banks can continue to borrow from the central bank until their combined reserves are twice as great as the reserve of the central bank. For any given amount of cash reserve held by the central bank, therefore, the commercial banks can lend twice as much to their customers as they could lend if the minimum reserve ratio of the central bank were 100 per cent.

CONCLUSION

The foregoing outline illustrates the potentialities of a fractional-reserve system for creating money by expanding loans or destroying

money by contracting loans. To take a final illustration, how much money can our central banking system create because the central bank acquires \$100 of additional cash? Assume first that the central bank, as well as the commercial bank, must back each dollar of demand obligations with a dollar of cash reserve. Then the new \$100 of cash can increase the total amount of money by only \$100. That is, the central bank can lend only \$100 more to the commercial banks, and on this basis the commercial banks can create only \$100 more of deposit credit. Assume next that the central bank must hold a reserve of only 50 per cent, and that the commercial banks must each hold a reserve of only 10 per cent. If the tendency for an expansion of bank loans to increase circulating cash is left out of account, the result is this: the central bank can now lend \$200 more to the commercial banks, and they can expand their loans by \$2,000. If, on the other hand, every ten dollars of additional bank loans causes the banks to lose about one dollar of cash to circulation, the new \$100 of cash is capable of increasing the total amount of money by only about \$1,000. The illustration can be reversed, of course, by assuming that our central bank loses \$100 of cash. Such potentialities tend to be largely realized because, as indicated earlier, the individual bank is under pressure to follow suit when other banks in general are either expanding or contracting their loans. Hence one important function of central banks is that of controlling the general trend.

The Organization of Commercial Banking

There are some 15,000 commercial banks in the United States. All but a few are organized as corporations. About 9,500 of them are "state banks" operating under state charters. Of the remainder, around 5,400 are "national banks" operating under federal charters.

STATE BANKING

Before 1863 most of the commercial banking in the United States was done by banks operating under state charters. The states outdid the federal government in generosity. They gave their banks the note-issue privilege which the Constitution had denied to the states themselves. The banks displayed their gratitude by issuing currency recklessly. Experience had taught that this is a poor way to get something for nothing. The fiat money put out by the Continental Congress—money backed by the fiat, or decree, that it was money—had become so redundant as to immortalize the expression, "not worth a Continental." Nothing daunted, some of the states produced fiat money of their own, just before the Republic was formed. In New Hampshire a mob forced a terror-stricken

legislature to pass a law providing for such currency. In Rhode Island a similar law was secured when the fiat-money party captured the legislature at the polls. Storekeepers closed their doors and creditors fled the state to avoid accepting this legal tender. Despite such experience, the states, after the adoption of the Constitution, soon permitted banks to extend notes and loans in huge amounts to highly speculative enterprises. The "dollars" of different banks came to have different values, the redemption of notes in gold was suspended right and left, and the result was business chaos. This was not all that was wrong with state banking, but it was enough.

NATIONAL BANKING

Our national banking system, made up of commercial banks operating under federal charters, was founded in 1863.² Because state bank notes were now subjected to taxation, note issue was confined to national banks. The solvency of the national banks was more strongly protected than had been the case with state banks. Stockholders were required to contribute a certain minimum of capital, the amount depending on the size of the towns or cities where the banks were located. They were made liable up to double the par value of their stock for the liabilities of the banks. (In 1933 double liability was dropped in favor of single liability.) Adequate surpluses were required; limits were imposed on loans to any single borrower and on loans secured by real estate; and reserves were regulated. Nevertheless, serious weaknesses remained in the banking system.

These weaknesses arose from excessive emphasis on the profit—at least the short-run profit—of the individual bank. Each bank was inclined to extend its loans as far as the law allowed. Surplus reserves, or reserves in excess of the legal minimum, would be loaned by small banks to larger banks, and by larger banks to still larger banks, until they became concentrated in big financial centers, especially New York City, under conditions that made them hard to get back when urgently needed. The big banks, in addition to being numerous and acting more or less independently of one another, were just as much disposed as the smaller

² On two occasions before this a single national bank had been founded. Each was supposed to act as fiscal agent for the government, help the Treasury in the sale of bonds, and stabilize notes and deposits. The first Bank of the United States, lasting from the birth of the Republic until 1811, did good work at the first two of these tasks, although it did not succeed in exerting much influence with respect to currency. The second Bank of the United States, 1816-36, frequently managed currency badly, failed to keep state banks under control, and, despite useful service as a fiscal agent in the 1820's, got into politics during Jackson's presidency and lost its national charter. This ended national banks until 1863.

banks to lend up to the limit. If, as a means of returning "bankers' balances" to smaller banks, they engaged in a general retirement of loans, their clients had to make forced sales, with the result that prices fell, insolvency became widespread, and a crisis was created. Thus the use of reserves was immobilized, and in periods of general emergency there was little surplus reserve for the banking system at large. What was needed was central banking, or central control of reserves by institutions not run primarily for private profit. To meet the need the Federal Reserve System was inaugurated late in 1913.

STRUCTURE OF THE FEDERAL RESERVE SYSTEM

The Federal Reserve System divides the country into twelve districts, and provides each district with a regional *federal reserve bank*. Each of the districts includes such a wide variety of business interests as to make it nearly self-sufficient financially. That is, a heavy demand for funds in some parts of the district, at any particular time, tends to be offset by a light demand elsewhere in the district, so that the district can largely meet its own needs. The districts, although numbered, are commonly designated by the names of the cities in which their reserve banks are located. Using both numbers and names, we have the following districts and reserve banks: 1, Boston; 2, New York; 3, Philadelphia; 4, Cleveland; 5, Richmond; 6, Atlanta; 7, Chicago; 8, St. Louis; 9, Minneapolis; 10, Kansas City; 11, Dallas; 12, San Francisco. The twelve reserve banks, supplemented by twenty-four branches and one agency, constitute the central machinery of our banking system.

Each reserve district contains many *member banks*. National banks must be members of the Reserve System, and state banks may be members by meeting substantially the same requirements which are prescribed for national banks. Banks which are linked with the system, not as official members, but for the purpose, described later, of clearing, are known as "clearing members." Only two-fifths of our commercial banks are members, but they are so large, compared with nonmembers, that they have nearly four-fifths of the assets of all commercial banks. All the capital of the reserve banks is provided by the member banks, each of which owns stock in its reserve bank to the amount of 3 per cent of its own paid-in capital and surplus.

GOVERNMENT OF THE RESERVE SYSTEM

The government of the Reserve System consists broadly of two parts: the respective governing bodies of the twelve reserve banks, and

the central governing body in Washington, D. C. The latter consists mainly of the Board of Governors of the Federal Reserve System.

Each reserve bank has a president and a board of nine directors. The president is appointed by the board of the reserve bank, with the approval of the Board of Governors. Of the nine directors, three are appointed by the Board of Governors to represent the federal government, and six are elected by the district member banks to represent district interests. Of the six directors representing the interests of the district, three must be bankers, and they are so chosen as to represent the interests of large, medium-sized, and small banks. The other three, who must not be bankers, represent the interests of industry, commerce and agriculture.

The general supervision and co-ordination of the activities of the reserve banks is undertaken by the Board of Governors. It consists of seven members, each of whom is appointed by the President of the United States, with the advice and consent of the Senate, for a term of fourteen years. Among other things, it determines what types of assets reserve banks may acquire, helps determine what interest rates reserve banks may charge on their loans, and is empowered to change the reserve requirements of member banks. Since it provides seven out of the twelve members of the Open Market Committee while the reserve banks provide only five, it is in a position to dominate the policies governing reserve-bank purchases and sales in the open market. It consults with, and receives advice and suggestions from, the Federal Advisory Council, whose twelve members are selected by the directorates of the twelve reserve banks.

ORGANIZATION OF RESERVES

The banking reserves of our Federal Reserve System are organized as follows. *Member banks* must maintain minimum reserves against both time deposits and demand deposits. Against time deposits the minimum is the same for all members. Against demand deposits it varies according to the size of towns or cities where members are located, being greatest for members in central reserve cities (New York and Chicago), next greatest for members in reserve cities, and smallest for country or other members. For nearly twenty years the minimum requirements were 3 per cent for time deposits, while for demand deposits they were 13 per cent, 10 per cent, and 7 per cent, respectively, for the three classes of member banks. But these requirements may now be set by the Board of Governors at anywhere from 3 to 6 per cent for time deposits, and at anywhere from 13 to 26 per cent, 10 to 20 per cent, and 7 to 14 per cent, respectively, for the demand deposits of the three classes of member

banks.³ Member banks hold their legal reserves in the form of deposits with their reserve banks. To meet withdrawals of cash they also hold in their own vaults cash which normally averages 3 to 4 per cent of their demand deposits. *Reserve banks* must maintain legal reserves against demand obligations taking two forms: outstanding federal reserve notes, and deposits held with reserve banks. Against its federal reserve notes a reserve bank must maintain a gold-certificate reserve of at least 40 per cent. Against deposits held with it a reserve bank must normally maintain a reserve of at least 35 per cent, in the form of gold certificates or any other type of lawful money except federal reserve notes themselves. In emergency the ratio of reserves to obligations may be reduced.

PROBLEMS

1. Explain how the activities of medieval bankers in the following cases affected, if at all, the form or the quantity of money, or both:

(a) The Fuggers in North Central Europe, and the Peruzzis and Medicis of the Italian peninsula, exchanged the money of one locality for that of another in order to effect long-distance transfers of sums.

(b) The Bank of Genoa loaned funds belonging to its own shareholders.

(c) The Bank of Amsterdam exchanged its "bank money," consisting of credit on its accounts, for equivalent amounts of various kinds of coin. Merchants who deposited coin with the bank made payments by having the bank transfer claims on this bank money to creditors.

(d) At a later time the Bank of Amsterdam established deposit credits for borrowers in exchange for their promissory notes, and it kept on hand much less than enough cash to equal the total amount of its deposits.

2. The people of a self-sufficient economy have, as their only money, \$1,000 of cash, which consists of coins and notes issued exclusively by their political government. They establish a bank. On a given day they deposit the whole \$1,000 at the bank, and in return for it they are credited with \$1,000 on the books of the bank. In dealing with bank assets and liabilities hereafter, simplify by leaving bank equipment out of account.

(a) What are the assets and liabilities of the bank? What is the reserve ratio?

(b) For a time the people make all payments by means of transfers on the books of the bank. What has happened to the economy's money?

(c) In a later period nine-tenths of all payments are made by means of accounting transfers but the other tenth is made by means of hand-to-hand

³ In 1936-37 the requirements were raised to 6 per cent for time deposits, and to 26, 20, and 14 per cent, respectively, for demand deposits. In April of 1938, however, they were lowered to 5 per cent for time deposits, and to 22½, 17½, and 12 per cent, respectively, for demand deposits. During 1941, however, the new highs reached in 1937 were restored. It remains to be seen whether, as a result of the threat of inflation which huge government expenditures on war preparations carries with it, the Board of Governors will be empowered to set the minimum requirements much higher still.

transfers of cash. The bank maintains a 100 per cent reserve. What are the assets and liabilities of the bank? How is the monetary situation affected if the bank loans \$500?

(d) The bank is next permitted to maintain a reserve ratio as low as 10 per cent. Explain how it can now create money by lending. Suppose that it makes a money-creating loan of \$500. Assuming that the loan has just been made, but that no cash has yet flowed out of the bank into circulation as a result, how has the loan affected the assets and liabilities of the bank?

(e) Why, sooner or later, should the loan cause cash to leave the bank? Assume that it causes circulating cash to increase by \$50: what are now the assets and liabilities of the bank?

(f) To about what amount could the economy's total amount of money rise if bank loans caused no increase of circulating cash? To about what amount if the ratio of circulating cash to bank deposits is assumed to remain about 1 to 9? Explain in both cases. How would your answer be affected if the minimum reserve requirement were 20 per cent? If it were 100 per cent?

3. Assume that the economy described above has two commercial banks instead of one. These banks, A and B, must each maintain a minimum reserve of 10 per cent.

(a) Explain why, if either bank expands or contracts its total loans, the other bank will tend to follow suit.

(b) Suppose that the government issues \$100 of new cash and deposits it with A. Is there any difference between the amount of new loans that A alone can now make and the amount of new loans that A and B together can now make? Explain.

(c) Assume that A and B are served by a central bank, X, with which their reserves are held on deposit. As far as the total amount of money is concerned, does it make any difference whether X must maintain a 100 per cent reserve or only a fractional reserve against the combined reserves of A and B? Explain.

4. Explain the meaning of the following terms: (a) state banks; (b) national banks; (c) federal reserve districts and federal reserve banks; (d) member banks and clearing member banks.

5. Describe: (a) the governing body of a federal reserve bank; (b) the central governing body of the Federal Reserve System; (c) the organization of the reserves of member banks and of reserve banks.

REFERENCES

See the list at the close of Chapter VIII.

VIII

FINANCE: *THE FEDERAL RESERVE SYSTEM*

Gold is now only a sacred symbol, connected in some vague way with our belief in the money that actually circulates. We might double the number of dollars in this country, and double our prices so that each dollar was really worth half as much as before, but the dollar would still be called $\frac{1}{35}$ of an ounce of gold. The gold in Kentucky would preserve a sacred and dignified aloofness from the whole proceeding.¹

Functions of the Federal Reserve System

THE FEDERAL Reserve System, as we have seen, centralizes in the reserve banks the reserves of the member banks. Partly by reason of this fact, and partly for other reasons, the system is able to perform several important and interrelated functions. These functions may be broadly classified as five. First, the Reserve System is in part responsible for the supervision of banking operations in the United States. Second, it clears checks and collects balances. Third, it acts as fiscal agent for the federal government. Fourth, the reserve banks make loans and investments which affect the lending power of commercial banks. Fifth, the reserve banks provide and create hand-to-hand currency.

SUPERVISION OF BANKING OPERATIONS

The supervision of banking operations is divided among several authorities. Further, national banks are under several authorities at once, and the same thing is generally true of state banks. Take first a national bank. Because it holds a charter from the federal government, it is under the authority of the federal Comptroller of the Currency. Since all national banks are member banks of the Reserve System, it is under the authority of the Reserve System. And, as all member banks of the Reserve System are members of the insurance fund of the Federal De-

¹D. C. Coyle, *Roads to a New America*. Boston: Little, Brown & Company, 1938, p. 240.

posit Insurance Corporation, it is under the authority of the FDIC.² Now take a state bank. It is answerable to the banking authorities of the state from which it has received its charter. If it is a member bank of the Reserve System, it is subject to supervision by both the Board of Governors of the Reserve System and the FDIC. And, since the federal insurance of deposits extends not only to all member banks but to most nonmember banks as well, our state bank will probably be under the jurisdiction of the FDIC even if it is not a member of the Reserve System. General rules governing the purposes for which member banks may make loans and the types of credit instrument which such banks may acquire are provided by the Federal Reserve Act. The Board of Governors interprets these rules and bases regulations on them. The examination of national banks is conducted by the Comptroller of the Currency; of state banks, by the state banking authorities; and the results are accepted, as a rule, by the Board of Governors and the FDIC. Division of authority lends itself to leniency of regulation. Thus, it may be feared that state member banks will withdraw from the Reserve System if they are regulated more strictly than state nonmember banks, or that national banks will give up their federal charters and become state banks if they are restricted more than state banks. The situation is further complicated because the President of the United States and the Secretary of the Treasury have extensive powers to regulate the monetary system and may disagree with other authorities about monetary policy.

CLEARING AND COLLECTION

The use of checking deposits as a medium of payments is furthered by clearing and collection. Clearing consists essentially in the mutual cancellation of debits and credits, and collection consists in the settlement of balances remaining after clearing. The simplest example is that of clearing and collection between two individuals who are depositors at the same bank. Say that Jones and Smith are both depositors at bank A. Jones draws a ten-dollar check on A payable to Smith, and Smith draws a five-dollar check on A payable to Jones. Each deposits with A the check which he receives from the other. The bank subtracts the amount of each check from the deposit account of the drawer and adds it to the deposit account of the payee, with the result that the Smith account is increased and the Jones account is decreased by five dollars. In effecting

² The capital of the corporation is provided by the federal Treasury and the reserve banks. Most of our commercial banks are members of the insurance fund. A depositor in a bank which is a member of the fund has his deposits insured up to a maximum of \$5,000.

clearings and collections, not between depositors of a given bank, but between different banks, the Federal Reserve System plays a part.

Take first the case of two or more banks in the same city. Every day there are deposited at each bank certain checks which are drawn on the other banks. Normally such banks establish a local clearing association or "clearing house." Daily each clearing member pays the clearing house the amount of its net debt to all the other clearing members, or receives from the clearing house the amount of the net debt of the others to it, as the case may be. Net debts usually are settled, not by transfers of cash, but by transfers of deposits at the district federal reserve bank.

Take next the case of banks located in different cities of the same federal reserve district. Any bank may use a "correspondent" bank to collect for it at a distance, but it is now common to effect clearing and collection directly through the reserve bank. The procedure may be illustrated as follows. A ten-dollar check drawn on bank A, of Burlington, Vermont, in the Boston reserve district, is deposited with bank B, of Manchester, New Hampshire, in the same district. Then B sends the check to the Boston reserve bank, which in turn sends it to A. Later the reserve bank, assuming that in due time it decides that the check is good, deducts ten dollars from the account of A and adds ten dollars to the account of B.

Take finally the case of banks located in different reserve districts. Although collections may be effected through correspondent banks, it is now common to use reserve banks for the purpose. To illustrate, we shall suppose that a ten-dollar check drawn on bank C, of Milwaukee, in the Chicago reserve district, is deposited with bank B, of Manchester, in the Boston district. Then B sends the check to the Boston reserve bank, which sends it to the Chicago reserve bank, which sends it to C. Assuming the check to be good, the procedure now runs as follows. The Chicago reserve bank deducts ten dollars from the deposit account of C, and the Boston reserve bank adds ten dollars to the deposit account of B. The Chicago reserve bank now owes the Boston reserve bank ten dollars on account of this particular check. Of course the illustration does not tell what the *net* debt of either reserve bank to the other may be. However, any net debt owed by one reserve bank to another is easily collected by means of a transfer on the books of the *interdistrict settlement account*, which is run by the Board of Governors in Washington. All the reserve banks have accounts with this central account and daily settlements are made through it.

RESERVE BANKS AS FISCAL AGENTS FOR THE FEDERAL GOVERNMENT

Because of its nationwide organization, including its facilities for clearing and collection, and because of the financial contacts and experience of its officials, the Reserve System is well qualified to perform certain fiscal functions for the federal government. The function of holding federal funds is shared by the reserve banks with the Treasury and certain commercial banks, the funds held at commercial banks being transferred to reserve banks when they are to be paid out. The reserve banks also collect billions of dollars and pay out billions every year for the federal government. Thus, taxes and payments for federal securities give rise to collections, while disbursements are made for the government to pay its current expenses and retire its securities. These functions, since they often require the transfer of funds from one part of the country to another, occasion frequent use of the interdistrict settlement account. The Reserve System is further helpful in the sale of federal securities. Its officials often co-operate with the Secretary of Treasury in fixing the terms of sale, and the reserve banks distribute descriptions of the securities, take subscriptions, and deliver securities to buyers. Reserve banks are not permitted to lend directly to the government, but they may buy federal securities in the open market.

RESERVE BANK LOANS AND INVESTMENTS

As a preliminary to the discussion which follows, it should be pointed out that bank "investments" affect the quantity of money in essentially the same way as do bank "loans." This is true of commercial banks. When they lend, commercial banks establish deposit credit for borrowers; when they invest, they establish deposit credit for the individuals, firms, or governmental units whose obligations they buy. This is true also of reserve banks.

Now the most important influence of the Reserve System on money comes from the making of loans and investments by the reserve banks. As we have seen, the reserves of member banks are held in the form of deposits with reserve banks, and the reserve banks hold fractional reserves against these deposits. Whenever the ratio of reserve bank reserves to member bank reserves is above the legal minimum, as it almost always is, reserve banks can increase member bank reserves by expanding either the loans or the investments of reserve banks. These operations have the effect of increasing member bank deposits with reserve banks, just as the expansion of loans and investments by commercial banks has the result of increasing the deposits held with commercial banks. A reserve bank,

since its legal minimum cash reserve is only 35 per cent of its deposit obligations, may maintain deposits up to 2.85 times the amount of its cash reserve. Or, instead of increasing member bank reserves, it may increase its demand obligations in the form of federal reserve notes. As its legal minimum gold-certificate reserve is only 40 per cent of its outstanding reserve notes, it may maintain up to \$2.50 of reserve notes for every dollar of its gold certificates which is not already used as reserve against its deposit obligations.

The loans made by reserve banks take two chief forms: *rediscounts*, and *collateral loans*. Reserve banks make investments mainly by means of *open-market operations*. Such loans and investments are discussed in the next two sections.

RESERVE BANK LOANS: REDISCOUNTS AND COLLATERAL LOANS

Reserve banks, although they may lend to nonmember banks and even to business firms and individuals, have actually made most of their loans to member banks. To illustrate the forms of their loans to member banks, and the types of credit instrument, or "paper," on which such loans are made, let us begin by supposing that a business man borrows from a member bank. He gives the bank his ninety-day promissory note for \$1,000. The bank discounts his note—credits him with \$1,000 less interest charged in advance. Thus it gives him a deposit credit of, say, \$990, while he is to pay it \$1,000 within ninety days. Forty-five days later the member bank finds it has loaned so much that its reserve ratio is down to the legal minimum. In order to accommodate customers with further loans it must increase the amount of its reserve, that is, its deposits with its reserve bank. Therefore it must borrow from its reserve bank. Now, the reserve bank may lend to it in the following ways.

First, the reserve bank may "rediscount" for the member bank certain eligible "commercial paper" which the member bank has discounted for its customers. Commercial paper here means short-term promissory notes or drafts used in financing the production, distribution, and sale of commodities. To continue our illustration, the reserve bank rediscounts (discounts again) the \$1,000 promissory note which the member bank has discounted for the businessman. It takes possession of the note, which it will undertake to collect within forty-five days, and gives the member bank a deposit credit of, say, \$996. The rate of discount charged is the "rediscount rate." Second, the reserve bank may accommodate the member bank by means of a "collateral loan"; that is, it may lend on the member bank's own promissory note, secured by certain paper as collateral. Member banks prefer this form of loan because it is simple. The

collateral usually consists of either eligible commercial paper or of federal securities. The rate of interest on collateral loans thus secured is the same as the official rediscount rate. Or the reserve bank may lend on other collateral which is acceptable to the reserve bank, provided the charge is at least one-half of one per cent higher than the official rediscount rate. This is most likely to happen during severe depressions, when the ebb of business activity creates a shortage of ordinary commercial paper at the same time that banks suffer heavy withdrawals of cash.

Reserve officials have long held that member banks should favor, not long-term investments or loans based on long-term securities, but short-term loans based on commercial paper, which are supposed to be more liquid and safe. Yet for some years the actual trend has been away from member bank loans on commercial paper, and hence away from the use of commercial paper as a basis for member bank borrowing from reserve banks. However, by borrowing from its reserve bank, regardless of the form which the borrowing takes, a member bank secures additional reserve which enables it to expand its own loans. The principle is not changed when one reserve bank lends in another reserve district. It may do this by rediscounting for another reserve bank or by making collateral loans to it. Or a reserve bank may do it by means of investments. This leads us to the subject of open-market operations.

RESERVE BANK INVESTMENTS: OPEN-MARKET OPERATIONS

The "open market" consists of persons and of institutions, in all reserve districts, standing ready to buy or sell certain types of paper. The reserve banks sell or buy in this open market two main types of paper: federal securities, and bankers' acceptances.³

Acting for the reserve banks collectively, the Open Market Committee may either buy or sell federal securities of any maturity in the open market. When it buys, the usual result is this: Those who sell the securities receive checks drawn on reserve banks, they deposit these checks with their member banks, and the member banks send the checks to their reserve banks for collection, thus increasing their reserves correspondingly. The effect is essentially the same as that of reserve bank loans to member banks. When, on the other hand, federal securities are sold on the open market, the result is the opposite: The buyers of the securities draw checks against their member banks, they give these checks to reserve banks, and the reserve banks deduct the amount of the

³ They may legally sell or buy also several other kinds of paper, such as state and municipal bonds which are to mature within six months, and obligations whose principal and interest are fully guaranteed by the federal government. In practice, however, open-market operations relate chiefly to federal securities and bankers' acceptances.

checks from the deposits which the member banks in question hold with them. In this way the reserve banks decrease the reserves of member banks, the same as they do when they contract the amount of their total loans to member banks.

Bankers' acceptances, that is, short-term drafts drawn on and accepted by banks, may be bought or sold in the open market by reserve banks acting individually. Bankers' acceptances were admitted to open-market operations on the theory that a wider use of the acceptances is desirable. The volume of acceptances sold to reserve banks is influenced by the comparative discount rates charged by reserve banks and other investors. It tends to increase when the reserve banks charge less than other buyers of acceptances do, and to decrease in the contrary situation. As far as member bank reserves are concerned, open-market operations in acceptances have essentially the same result as have open-market operations in federal securities.

PROVISION OF AN ELASTIC HAND-TO-HAND CURRENCY

We have seen that one part of circulating money in general consists of cash which is used in hand-to-hand transactions, while the other and larger part consists of checking deposits. We have seen, too, that the demand for circulating cash changes periodically. Therefore the supply needs to be elastic, to be capable of both expansion and contraction. Changes of demand are met in first instance mainly by member banks of the Reserve System; in second instance, by the reserve banks. When the demand rises, member banks secure from reserve banks the additional cash which they pay out to their customers; when it falls, they turn over to reserve banks the additional cash which they take in from their customers. Thus the provision of an elastic hand-to-hand currency is a function of the reserve banks.

This function is discharged partly by means of variations in the circulating supply of *federal reserve notes*, and partly by variations in the circulating supply of other forms of cash. The emphasis falls on reserve notes when the demand for cash, or the demand for cash and deposit credit together, is so heavy as to put serious pressure on the reserves of the reserve banks. The reason is that reserve notes do not count as part of the reserves of reserve banks while other forms of cash do count. It follows that a reserve bank, having a choice between paying out \$1,000 in reserve notes and paying out \$1,000 in other forms of cash, will suffer a smaller decline in its reserve ratio if it chooses to pay in reserve notes. Thus, by paying reserve notes to member banks, a reserve bank can support more deposit credit for member banks, or pay more cash to them,

as the case may be, than it could do if it paid them other forms of cash instead. In the light of this fact we now consider, in turn, the expansion and the contraction of circulating cash.

Suppose, first, that the demand for circulating cash rises. This may mean merely that the customers of member banks want more cash and correspondingly less deposit credit. If so, the customers exchange deposit credit for cash by cashing checks. Member banks lose cash reserves and deposits in equivalent amounts, and hence their reserve ratios fall. As the additional cash is drawn by member banks from reserve banks, the reserve ratios of reserve banks also fall, falling less if the reserve banks pay out reserve notes than they do if the reserve banks pay out other forms of cash. Let us assume, however, that the member banks have plenty of surplus reserves. Therefore they do not borrow from the reserve banks in order to replenish their reserves. The reserve banks, since they, too, have large surplus reserves, need make no special point of paying out reserve notes instead of other forms of cash. But now let us assume that the demand for circulating cash continues to rise, as it does during a business boom. Customers of member banks want not merely more and more cash but larger and larger combined totals of cash and deposit credit together. Sooner or later the member banks must replenish their reserves by borrowing from reserve banks; and, as time goes on, reserve bank loans rise higher and higher. Thus, with the lower and lower decline of their own reserve ratios, the reserve banks increasingly prefer to pay out reserve notes rather than other forms of cash. The general conclusion is that the emphasis on reserve notes, as the expansible element in circulating cash, tends to vary directly with increases of demand for circulating cash.

Suppose, second, that the demand for circulating cash falls. Take first a moderate decline. A fairly accurate explanation of such a decline is likely to be that the customers of member banks want less cash and correspondingly more deposit credit. Assuming this to be the explanation, they bring cash, including reserve notes, to member banks; and, instead of paying off debts to the member banks, they take deposit credit in exchange for the cash. The member banks, in turn, send the cash to their reserve banks. Assuming that the member banks exchange the cash for deposit credit with their reserve banks, instead of using it to pay debts, the general outcome of the moderate decline in the demand for cash is this: There is somewhat less cash and somewhat more deposit credit in circulation, and there is a slight increase in the reserve ratios of both the member banks and the reserve banks. But now let us assume that the demand for circulating cash declines drastically,

as it does during a business depression. Unless hoarding develops, customers of member banks want not merely less and less cash but smaller and smaller combined totals of cash and deposit credit together. They use more and more cash to reduce their debts to member banks, and the member banks use the cash for the same purpose at the reserve banks. The cash retired from circulation, as its volume grows, consists predominantly of federal reserve notes, because, for the reason explained above, these notes have become the predominant form of circulating cash during an earlier period.⁴

The elasticity of hand-to-hand currency is thus largely traceable to the expansion and contraction of federal reserve notes. The elasticity of reserve notes, in turn, is largely traceable to the fact that commercial paper or government paper can be used as backing for either reserve notes or checking deposits. Behind reserve notes the gold-certificate reserve may legally be as low as 40 per cent, and the paper backing may be as high as 60 per cent. Behind member bank reserves, which constitute the foundation of checking deposits, the monetary reserve may legally be as low as 35 per cent, and the paper backing may be as high as 65 per cent. Now this paper backing, which can be used to support either reserve notes or checking deposits, can affect the supply of reserve notes for either or both of two general reasons. First, a given amount of backing may be shifted from checking deposits to reserve notes or from reserve notes to checking deposits. Second, the total amount of paper backing may change. *Commercial* paper expands and contracts with the rise and fall of general business activity. Thus it lends elasticity to the total supply of checking deposits and reserve notes together. *Government* paper undoubtedly expands.

Control of the Supply of Money

The control of the supply of money is important because uncontrolled changes in this supply are capable of causing violent and harmful changes in the general average of individual prices. This general average, or "level" as it is called, is determined by the comparative amounts of goods and of money, respectively, which are exchanged for each other per unit of time.⁵ Looking at the matter from the side of goods, we think of the result of changing the amount of goods traded for a given

⁴ Every reserve bank receives from its member banks not only reserve notes of its own issue but also reserve notes issued by other reserve banks. But a reserve bank must not put back into circulation the reserve notes of other reserve banks. For every dollar of such notes which it puts back into circulation in a given year, it is subject to a tax of ten cents. The result is that such notes are returned promptly to the banks of issue.

⁵ See Chapter XX, The General Level of Prices.

amount of money per unit of time. Thus, the price level falls if the amount of goods is increased, and it rises if the amount of goods is decreased. From the side of money, we think of the result of changing the amount of money traded for a given amount of goods per unit of time. Thus, the price level rises if the amount of money is increased, and it falls if the amount of money is decreased. For the present we are interested in the money side. The object of monetary policy may be either to encourage or to discourage a change in the price level. However wise or foolish the chosen object may be, the attainment of the object depends upon the control of the amount of money exchanged for goods.

THE OBJECT OF CONTROL

Now "the amount of money exchanged for goods" does not mean the same thing as the total supply of money in existence. In two respects it means something different. In the first place, of course, only *circulating money* is exchanged for goods. Circulating money consists of two parts: first, circulating cash, that is, all coins and paper money outside the banks and the Treasury; second, checking deposits. *Noncirculating money*, on the other hand, consists of cash (coins and paper money) held by commercial banks, by reserve banks, and by the Treasury. In the second place, the amount of circulating money exchanged for goods per unit of time depends not merely on the amount of such money but also on the rapidity with which this money is traded for goods. To illustrate, it makes a difference whether all or only half of a given amount of circulating money is exchanged for a given quantity of goods in a given length of time. The "circulation rate," or "velocity," of money affects the amount of money traded for goods. Attention is now to be centered mainly on the amount rather than the circulation rate of circulating money.

CONTROLLABLE FACTORS

The supply of circulating money may be changed chiefly in the following ways. First, the amount of checking deposits, the most important form of circulating money, may be changed by changing the amount of checking deposits per dollar of federal reserve bank reserves. In other words, the number of checking-deposit dollars can be increased or decreased without changing the amount of reserve bank reserves. Second, the amount of checking deposits can be changed by changing the amount of reserve bank reserves. In other words, the number of checking-deposit dollars can be increased by adding to the reserves of the reserve banks or decreased by subtracting from the reserves of the reserve banks. Of

course these two influences on the amount of circulating money may operate simultaneously, either reinforcing or offsetting each other.

Third, the proportions between circulating cash and circulating deposits may be changed in such a way that the combined quantity of the two together is affected. To illustrate, suppose that member banks exchange some of their reserves (their deposits with reserve banks) for cash which they in turn exchange for deposit credits held by their customers with member banks. The latter of these two exchanges does not affect the amount of circulating money: so much cash simply replaces the same amount of deposit credit in circulation. But the former of these two exchanges does, indirectly, affect the supply of circulating money. It does so in the sense that, by trading reserves for cash, the member banks get only a dollar for a dollar, whereas if they did not make the trade they might use each dollar of the reserve in question as a basis for several dollars of checking deposits. The conclusion is essentially the same if member banks, when they borrow from reserve banks, take the proceeds in cash instead of additional reserves.

The first and second factors considered above are certainly subject to control by the monetary authorities. But the same thing can hardly be said of the third. The proportions between circulating cash and circulating deposits are determined mainly by the desires of the users of circulating money. Here the business public exerts far more "control" over the monetary authorities than the monetary authorities exert over the business public. It remains to see in what ways the controllable factors may be controlled by two sets of monetary authorities: by the officials of the Federal Reserve System on the one hand, and by the President and the Secretary of the Treasury on the other.

CONTROL BY THE RESERVE SYSTEM

The powers of the officials of the Federal Reserve System relate mainly to the amount of checking deposits outstanding against each dollar of reserve bank reserves. The officials may use either or both of two general types of control over this amount. First, they may change the reserve *requirements* of member banks—the required ratios of reserves to deposit obligations. Second, they may change the *amounts* of member bank reserves, either increasing or decreasing them in relation to the existing reserve requirements. (The officials may also employ "moral suasion." That is, they may request the member banks to behave in a certain way, possibly using implied threats to lend color to their advice. But this control by words has never proved very effective.) The most direct and powerful type of control is control over member bank

reserve requirements. The limits within which the Board of Governors can change the minimum reserve requirements were described above. For any given amount of member bank reserves, it is clear that the maximum amount of member bank loans and deposits is reduced by raising the reserve requirements and increased by lowering these requirements. The other type of control, or control over the amount of member bank reserves, may take either of two forms: rediscount-rate control, or open-market control.

Rediscount-rate control consists in changing the cost of member bank borrowing from reserve banks. Assume that the object is to discourage such borrowing. Then the cost of rediscounts and collateral loans is raised. This may be done by increasing the rediscount rate on loans without becoming more strict about the paper which secures the loans. Or, what amounts to much the same thing, it could be done by becoming more strict about the paper without changing the rediscount rates. In practice both methods are likely to be employed at the same time. The theory of increasing the cost of borrowing runs substantially as follows. Member banks will now be discouraged from renewing loans at reserve banks, or at least from increasing the volume of such loans. Therefore they will curtail or restrict their own loans, by charging more for them, and in this way member-bank deposits will be decreased or limited.

But, although it is true that member banks and their customers are less willing to borrow when the costs are high than they would be if the costs were lower, the practical effectiveness of rediscount control is limited in the following respects. First, the demand for loans by customers of member banks tends to be inelastic. For borrowers in general, interest costs are a small part of all costs. Moreover, during a period of rising prices, entrepreneurs may find that the increase in the cost of their loans is offset, or even more than offset, by the increase in their profits. Second, bankers tend to observe, especially during depression, a "tradition against rediscounting"—a tradition against being in debt to reserve banks, even when rediscount rates are low enough to make borrowing profitable. Third, before a credit expansion has worked up momentum, that is, at the very time when the chances of controlling expansion are best, member banks normally have surplus reserves which make it unnecessary for them to borrow from reserve banks. These shortcomings of rediscount control are corrected in part by the control of reserve requirements and in part by open-market control.

Open-market control consists in changing the volume of member bank reserves by means of reserve bank sales or purchases of certain assets

—mainly federal securities—in the open market. As noted before, reserve banks increase the reserves of member banks by purchasing such assets and decrease these reserves by selling such assets. To illustrate the workings of open-market control, assume that the purpose is to discourage credit expansion. The authorities begin by raising the rediscount rates of the reserve banks, and then they proceed to destroy the surplus reserves of member banks by selling federal securities. Member banks feel the pinch whether they now borrow from the reserve banks or not. If they borrow, in order to build up their reserves, they must pay higher rediscount rates, and therefore they are induced to raise the discount rates on loans to their own customers. If their opposition to debt keeps them from borrowing, the fact that their reserves have been decreased makes them less ready to lend to customers than they were before. Either way, a brake is applied to the creation of bank money. If, on the other hand, the purpose of open-market control is to encourage credit expansion, the authorities lower rediscount rates and build up member bank reserves by purchasing assets in the open market.

CONTROL BY THE PRESIDENT AND THE SECRETARY OF THE TREASURY

The powers of the President of the United States and the Secretary of the Treasury, which are probably quite as great as the powers of the federal reserve officials, relate chiefly to the amount of reserve bank reserves and the amount of member bank reserves supported by them. Like the officials of the Reserve System, these two officials may use the extralegal form of personal influence known as "moral suasion." Thus President Franklin Roosevelt announced in 1936 that business was to have a "breathing spell," meaning surcease of further new forms of regulation, and early in 1937 he stated that prices were too high. The effectiveness of such suasion, somewhat doubtful in any case, depends largely on the deeds with which the President and Secretary are empowered to back their words. Among these potential deeds the following are noteworthy.

First, by requiring the issue of up to \$3,000,000,000 of United States notes (greenbacks), the President could correspondingly swell the amount of government money which is capable of serving as bank reserves or circulating cash. This money consists of greenbacks, national bank notes, Treasury notes of 1890, coins (including silver dollars), and silver certificates. For some years its total volume has actually remained rather stable, increases in the amount of silver coins and silver certificates having been about offset by the retirement of most of our national bank notes.

Second, the President is authorized to alter the monetary volume of our gold reserves, upon which depends the volume of the gold-certificate

reserves of the reserve banks, by changing the mint price of gold. As we have seen, gold has the same value in its two uses, the monetary and the industrial. The monetary use predominates. The process by which gold comes into monetary use by the reserve system may be illustrated as follows. The Treasury buys at \$35 an ounce 100 ounces of gold from X, a mining corporation or international banker, paying for it with a \$3,500 check drawn on a reserve bank. Now X deposits the check with a member bank, getting a deposit credit of \$3,500. The member bank in turn deposits the check with its reserve bank, thus adding \$3,500 to the reserve of the member bank. Finally, the Treasury, which holds the gold, turns over an equivalent amount of gold certificates to the reserve bank, whose deposits and reserves are both increased by \$3,500 as a result. The monetary gold stock can be changed in either of two general ways: by a change in the physical volume of this stock, or by a change in the mint price of gold. The physical volume can be increased by the domestic production of gold, by the importation of gold from abroad, and by the transfer of gold from industrial to monetary use. It can be decreased by the exportation of gold and by the transfer of gold from monetary to industrial use. The monetary value of a given physical volume depends on the mint price of gold. In 1934 the President and the Secretary of the Treasury were empowered to raise the mint price of pure gold from \$20.67 an ounce to as high as \$41.34. They actually raised it to \$35.00. This increased the value volume of the monetary gold stock by nearly \$3,000,000,000, and, even more important, encouraged a vast inflow of gold from abroad.

Third, the Treasury has a gold stabilization fund (taken from the profits made by raising the price of gold) of nearly two billion dollars. Most of it has lain idle in the Treasury. But the Secretary is empowered to transfer it to the reserve banks and spend it for foreign exchange (claims on the money of foreign countries) and certain domestic securities. Whatever he elected to spend in this way would increase member bank deposits and reserves by the full amount less any increase of circulating cash, and it would also increase reserve bank reserves by the full amount, thus enabling the reserve banks to expand member bank reserves still further.

Fourth, the Treasury has deposits in both reserve banks and member banks. In 1940, for example, it had reserve bank deposits of about \$800,000,000 and member bank deposits of around \$1,000,000,000. Thus it can increase member bank reserves by transferring deposits from reserve banks to member banks, and it can decrease member bank reserves by transferring deposits from member banks to reserve banks

Moreover, by borrowing from member banks, it can increase the balances capable of being transferred from member banks to reserve banks.

Fifth, the Treasury could require reserve banks to cash its reserve bank deposits in gold certificates, thus decreasing reserve bank reserves by a corresponding amount. Further, the balances capable of being cashed in this way could be increased by transferring to reserve banks not only the balances which the Treasury already holds in member banks but also additional balances created by borrowing from member banks.

Sixth, the Treasury can greatly increase the issue of silver certificates. Against each ounce of the silver bullion for which it has already spent several hundred millions of dollars it is authorized to issue up to \$1.29 of certificates. Actually it has issued only about half this amount, or an amount approximately equal to the average cost of the silver. Several hundred additional millions in silver certificates could be issued because of the fact that the Treasury is directed to keep on buying silver until the price rises to \$1.29 an ounce or until the monetary silver stock equals one-third of the monetary gold stock of the United States. Or the Treasury could, by exercising its power to revalue its existing supply of silver, put itself in a position to issue some \$1,300,000,000 of additional silver certificates. Any increase of silver certificates would increase the total supply of money by the full amount, and it would increase bank deposits and reserves by the full amount less any increase in circulating cash.

CONCLUSION

Power to control the supply of money is limited in two general respects.

First, this power is divided. It is divided because the supervision of banking operations is split among various federal and state authorities. It is further divided because the officials of the Reserve System, on the one hand, and the President and the Secretary of the Treasury, on the other, are capable of pulling in opposite directions. Thus, the Treasury might try to expand bank loans and deposits in order to encourage the sale of government securities while the Reserve System was trying to check credit expansion in order to forestall an unhealthy boom.

Second, credit control works under the handicap that it can assume the initiative only with respect to contraction or limitation. The authorities, provided they can work together, can certainly restrict credit by raising member bank reserve requirements, selling federal securities, shifting deposits from member banks to reserve banks, and decreasing the amount of gold certificates held by reserve banks. If they seek to

expand credit, however, they can only make it easier to borrow and then wait for potential borrowers to take the initiative. The difficulty is expressed by such figures of speech as these: you can lead a horse to water but you can't make him drink; you can pull a rope but you can't push it; you do not necessarily decide to move because you see a moving van in front of your house; and you do not get fat by just lengthening your belt. In later chapters we shall consider the possibility of solving this problem by substituting government borrowing and spending for private initiative.⁶

Other Financial Institutions

There are many individual types of financial institutions, such as commercial banks, commercial paper houses, discount companies, savings banks, trust companies, investment trusts, investment banks, building and loan associations, and the agricultural credit institutions which are briefly discussed in Chapter XVIII. Broadly, however, these institutions may be classified as commercial banking institutions and "others." The essential distinction is this: The former create and destroy money, while the latter transfer existing money without changing its amount.

ACCESSORY INSTITUTIONS

Serving mainly as auxiliaries to commercial banks are commercial paper houses and discount companies. The *commercial paper house* makes loans on commercial paper which the maker or holder is unable or unwilling to discount at local banks. This happens when, for example, a local bank's loans to the maker or holder of the commercial paper have already reached the maximum permitted by law, or when the paper house offers more attractive terms than the bank does. The house buys such paper and sells it outside the locality of purchase. It is related to commercial banks in two ways: it borrows from them in order to finance its purchases of paper, and it sells paper chiefly to them. The *discount company*, or "finance company," performs a similar function, except that it commonly makes loans of longer duration. One type of operation is that of buying or merely undertaking to collect the accounts receivable of a business firm. Another is that of financing installment buying. "Automobile banks" furnish an illustration. Thus, the General Motors Acceptance Corporation discounts for General Motors dealers the installment notes which buyers of automobiles give them to cover unpaid balances. The automobile bank secures funds by either borrowing from commercial banks or selling its own securities, which

⁶ For example, see "pump priming," Chapters XXI, XXVIII.

are usually backed by collateral received from dealers. The same general arrangement is used in financing the purchase of articles like electrical equipment and household furnishings.

SAVINGS INSTITUTIONS

Certain institutions, although this need not be their main business, act as middlemen between borrowers and savers. This is true of commercial banks with respect to their *time* deposits. It is true also of savings banks, trust companies, and insurance companies. All these institutions may have investable funds coming from various sources. Savings banks have savings in the form of deposits, which are essentially the same thing as the time deposits of commercial banks. Trust companies have them in the form of estates and funds held in trust for beneficiaries. Insurance companies have them in the form of the premiums paid in by the holders of insurance policies. These institutions have various ways of investing the savings, that is, putting them at the command of borrowers. For instance, they may buy farm mortgages or government bonds. As we shall see in a moment, they also make use of investment banks in finding investment outlets.

INVESTMENT BANKS

Business firms typically raise funds for the purchase of fixed capital, such as buildings and machinery, by selling corporate bonds and shares.⁷ Some securities are sold direct by means of advertising and salesmen. This is the general practice for risky securities. A number of corporations, of which the Pennsylvania Railroad, New York Telephone, and Good-year Rubber are examples, have used the direct method successfully for high-grade securities. As a rule, however, corporations leave the sale of their securities to investment bankers who are specialists in this work. These bankers perform three chief functions—investigation, underwriting, and sale.

For example, assume that a railway company asks an investment bank to sell a million-dollar issue of bonds for it. First, the bank investigates, determines whether the bonds probably can be sold at a satisfactory price. Presumably it will not handle the issue unless it is convinced that the railway company's proposed investment of the funds is sound, and that the company will actually invest the funds as it proposes. Thus the bank is supposed to safeguard the investors as well as the

⁷ Large firms also sell stock to get "working capital" such as raw materials. The statement that investment banks are used in raising fixed capital is not intended to imply that commercial banks are not used for this purpose. On the contrary, investment banks borrow on short term from commercial banks, and even sell some securities to them.

company.⁸ Assume that it does. It finds the bond issue to be justified by general business conditions, by the condition of the railway, and by the integrity and ability of the railway's officials.

Second, the bank underwrites the issue. Not being in a position to buy the bonds outright, it guarantees to turn over to the company within a specified time, say six months, \$1,000,000 less a payment for its services. The risk that the bonds cannot be sold in that time at a satisfactory price is thus transferred from the railway to the bank. The difference between what the bank turns over to the railway and what it gets for the bonds is the bank's payment for taking the risk and doing the selling. The bank, if it does not wish to take the responsibility for the whole bond issue, may join with other banks in an underwriting syndicate.

Third, the bonds are sold. Our bank may undertake the sale alone. But the marketing of a large securities issue is more likely to be done by a selling syndicate. The underwriting and the selling syndicates usually overlap in their membership. The latter, though commonly the larger of the two, contains members which are included in the former. At the same time, the selling syndicate contains other members who really become underwriters, in the sense that they agree to accept responsibility for some or all of their quotas instead of returning unsold securities to the original underwriters. The sellers try to keep the securities out of the hands of speculators until the selling is completed, because speculation causes price fluctuations which make selling difficult.⁹ They typically seek outlets through such financial institutions as savings banks, trust companies, and insurance companies. Although some securities are sold through commercial banks, the main part played by commercial banks is that of financing investment banks while the latter are selling through other channels.¹⁰ It is because commercial banks do this that investment

⁸ As a rule this is the case. But that it is not always so was glaringly illustrated by certain unfortunate "investments" in Latin America in the 1920's. Similar misfortunes attended some German "loans" sold by American investment bankers. It is mainly for the protection of investors that the Securities Exchange Commission now requires issuers and sellers of securities to use every reasonable effort and caution in learning and revealing the pertinent facts about the securities.

⁹ But it may be advisable to subject untried securities for a time to the organized speculation of a stock exchange in order to establish their investment value. This is called "seasoning."

¹⁰ Our banking laws now go to some lengths to restrict the use of commercial bank funds for investment or speculation in securities. The restrictions take two general forms. First, efforts are made to divorce commercial banking and investment banking. Enterprises engaged in investment banking are not allowed to receive deposits. At the same time, member banks of the Federal Reserve System are restrained in various ways from investing too heavily in securities. They are not to engage in investment banking. They are not to lend directly to "securities affiliates," namely, affiliated, or "branch," institutions which buy securities. To prevent indirect lending to such affiliates, limits are put on loans by member banks to their own officers, and on loans secured by the obligations of affiliates. The managements of member banks are not to interlock with those of organizations

banks do not require very large amounts of capital of their own, and may therefore be organized as partnerships rather than corporations.

INVESTMENT TRUSTS

The investment trust is essentially an enterprise which sells its own securities to savers and uses the proceeds to buy securities issued by numerous other enterprises. Provided it is conducted honestly and competently, the basic advantage which it offers to the buyer of its securities is diversification of investment. Without the services of an institution operating on the principle of the trust, the individual investor of only a few hundred dollars is limited to investing in a very small number of enterprises, and a major reverse to any one of these enterprises would cause him serious loss. By putting his money in the securities of an investment trust, on the other hand, he takes small shares of the many investments of the trust, and therefore he is not hurt much if only a few of the investments turn out badly. Moreover, the chances are good that the trust which loses on some investments will enjoy offsetting gains on others. But of course the actual position of the investor depends on the management of the trust, and it is likely to be an unhappy one, particularly in times of general depression, if the management has selected its investments carelessly, has failed to spread them among many industries and various regions, or has concentrated them highly on speculative enterprises.

Here we bring to a close a rapid sketch of certain essential parts of our economic "machine." Like all customs, habits, traditions, and other ways of doing things which have grown up over a period of centuries, and which now relate to hundreds of millions of people in all parts of the world, the institutions through which we produce and trade specialized products are in reality numerous and complicated. Some of those which were not touched upon in the foregoing sketch are considered later. Since the object of the present work is to make the *study* of economic realities as much simpler than the realities as possible, the sketch has been limited to those institutions which one must understand if he is to understand the greater machine known as "the price system." Throughout the remaining chapters attention is directed to the main principles, advantages, and shortcomings of this system.

engaged primarily in investment banking. Second, federal reserve banks indirectly restrict lending by commercial banks to stock brokers. In determining whether to lend to given member banks, they take into account what these banks have done with the proceeds of past loans.

PROBLEMS

1. By what agencies of the federal government, or of the state governments, or of both, are the operations of national banks and of state banks, respectively, supervised? Discuss the shortcomings of the existing arrangement and suggest remedies for them.

2. In a certain city, four banks, A, B, C, and D, have formed a clearing house. On a given day, A presents claims of \$28,000 against B, \$23,000 against C, and \$20,000 against D; B presents claims of \$18,000 against A, \$9,000 against C, and \$12,000 against D; C presents claims of \$22,000 against A, \$13,000 against B, and \$17,000 against D; and D presents claims of \$15,000 against A, \$14,000 against B, and \$16,000 against C.

(a) How much is paid or received by each bank? In what form?

(b) How is the capacity of each individual bank to lend affected? The capacity of the four banks taken collectively?

(c) Describe clearing and collection: between banks located in different cities of the same federal reserve district; between banks located in different federal reserve districts.

(d) Briefly discuss the economic advantages of clearing and collection.

3. What functions does the Reserve System perform as fiscal agent for the federal government? In what respects is it especially qualified to perform these functions?

4. Compare the effects of the "loans" and of the "investments," respectively, of a commercial bank; of a federal reserve bank.

5. A member bank, having loaned so much that its reserve ratio is down to the legal minimum, borrows \$1,000 from its reserve bank.

(a) Describe the leading forms which the loan may take.

(b) As far as the total quantity of money is concerned, does it make any difference whether the member bank takes the proceeds in the form of federal reserve notes or in the form of a deposit credit with the reserve bank? Explain.

(c) Explain the significance of the fact that the reserve bank is permitted to hold fractional reserves against its demand obligations. What are its leading forms of demand obligations? What reserve must it hold against each?

(d) Why should the officials of the Reserve System encourage member banks to create their deposits by lending on commercial paper instead of creating them by means of either investments in long-term paper or loans secured by such paper? Do member banks now borrow from reserve banks chiefly on the basis of commercial paper? Explain.

(e) What main types of paper are bought and sold in the open market by reserve banks?

(f) As far as the total quantity of money is concerned, explain: why reserve bank purchases in the open market tend to have the same effect as reserve bank loans to member banks; why reserve bank sales in the open market tend to have the same effect as a contraction of reserve bank loans to member banks.

6. Explain how each of the following factors affects the total supply of money by affecting the amount of funds which can be used as either circulating cash or member bank reserves: (a) federal reserve credit; (b) gov-

ernment money; (c) the stock of monetary gold; (d) cash held by the Treasury, and Treasury deposits with reserve banks.

7. Explain how the volume of federal reserve credit may be controlled by means of: (a) control over member bank reserve requirements; (b) rediscount-rate control and open-market control over the amounts of member bank reserves. Compare these two types of control with respect to probable effectiveness.

8. Explain how the President and Secretary of Treasury may control the supply of money by controlling: (a) the amount of government money; (b) the stock of monetary gold; (c) the amounts of member bank reserves and reserve bank reserves in relation to given amounts of government money and monetary gold.

9. Discuss the outstanding limitations on the power of our monetary authorities to control the supply of money. Suggest means of decreasing the importance of these limitations.

10. With respect to the transfer of existing money, or the creation and destruction of money, as the case may be, briefly discuss the following: (a) commercial paper houses and discount (finance) companies; (b) savings banks, insurance companies, and trust companies; (c) investment banks; (d) investment trusts.

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IX

GOODS FOR GOODS

It takes two to make a trade.

AS WE HAVE SEEN, trade is of the utmost importance. And trade is an exchange of goods for goods. Trade can be prevented quite as effectively by refusing to take goods as it can by refusing to part with goods. It takes two to make a trade. Simple as this sounds, erroneous beliefs on the subject display all the variety and ingenuity which characterize perpetual-motion machines. History records case after case in which otherwise able men have talked, and even acted, as if this elementary proposition were not so. To cite a single illustration, the same President who had helped develop scores of agencies to expand American exports put his signature to the skyscraper Hawley-Smoot tariff which was designed to keep foreign products out of the United States. For the present, let us consider a few rudimentary principles which proceed from the central fact that goods are demanded with goods. When this is done, the way will have been cleared for the study of supply and demand.

The Principle of Reciprocity

Trade is reciprocal. Trade is really an exchange of goods for goods. We cannot sell without buying, since those to whom we hope to sell cannot buy without selling. By purchasing, we enable others to purchase from us. Yet we are frequently urged to "buy at home," to "keep our money at home," and so on, as if buying away from home were a matter of sending out money, not getting it back, and losing by just that much.

THE BUY-AT-HOME FALLACY

A common version of the buy-at-home idea warns us against patronizing mail-order houses. It might be called "the Sears, Roebuck fallacy." Spend your dollar with the local hardware man and he will spend it with the local grocer, and the grocer will spend it with the local clothing dealer, and so on, until sooner or later the dollar will come back to you.

Spend the dollar outside and you and your fellow townsmen will never see it again. To prove this point, people will even exhibit marked dollars which they have spent locally and got back in the course of trade. A community, they will tell you, which kept every dollar sent in to it and sent no dollars out would soon become rich. But of course this is not true. On the contrary, the community would soon starve to death. To bring in money, it would have to send out goods. To avoid sending out money, it would have to stop bringing in goods. Thus it would grow "richest" when it had traded *all* its goods for money and found itself with nothing to eat. When you spend your dollar at home, what actually happens is that your dealer sooner or later sends away a dollar, or about that, for goods. And this is what enables outsiders to buy goods produced in your community.

The more distant the trade, the more popular is the Sears, Roebuck fallacy. Calvin Coolidge used to argue that the protective tariff "saves the American market for the products of the American workman." He meant that money spent abroad does not, like money spent at home, buy American products. He was merely repeating an error dating back hundreds of years. In the seventeenth century a Spanish mercantilist pleaded that home fisheries be built up, unless the Pope would permit people to substitute meat for fish on Saturdays, because, he said, importing fish from abroad took money out of Spain. At the same time, England's salt producers protested at the practice of importing salt used in curing exported fish, because, they said, it took money out of England. But money spent abroad is spent later for home products, because foreign countries, like local communities, sell outside for the purpose of buying outside, and can buy no more than they can sell.

"GETTING THE GOODS AND MONEY BOTH"

Up in Quebec, not many years ago, the Hon. L. E. Patenaude, campaigning for office on the Tory ticket, dusted off a buy-at-home argument which is quite old enough to be venerable. When you bought from a foreigner, you got his goods and he got your money; but when you bought at home you got the goods and your neighbor got the money. The argument goes back to the eve of the Civil War, when Abraham Lincoln is alleged to have said: "I don't know much about tariff, but I do know this: If we buy steel rails in England, we get the rails and Englishmen get the money; but if we buy the rails at home we have the rails and the money both." It is improbable that Lincoln ever said this. Careful investigation convinced F. W. Taussig that the statement probably originated with Robert Ingersoll. At any rate, the argument

sounds convincing only as long as one forgets that foreign goods are really bought with our exports. The exports provide "the money," namely, the foreign bills of exchange, to buy the imports.

In recent years, Samuel Crowther has been one of the outstanding journalistic champions of buy-in-America. The Chemical Foundation, whose constituent companies have enjoyed the benefit of high duties on imported chemicals, has seen fit to reprint from the *Saturday Evening Post* and distribute free of charge a number of Crowther articles under the collective title, "The Deserted Village." The ominous inference is that the loveliest villages of our plains will be deserted, and grass will grow in their streets, unless Americans are compelled by tariffs to buy at home what they would otherwise buy abroad. The idea is to get rich by producing at high cost commodities which we could get in exchange for things we can produce at low cost. Absurd as they are, such arguments have tremendous popular support. This was the reason why our government shrank, during the World War, from buying abroad many things which could have been secured more cheaply in that way. People would think that money was being taken out of the country, and that a decrease in the demand for American products would cause depression and unemployment. Granting that money is spent to make us believe this sort of thing, it may be worth while to notice certain reasons why we are susceptible to the propaganda.

WHY THE FALLACY IS ATTRACTIVE

First, it is forgotten that money is, in the main, a means of exchanging goods—that it is secured by selling certain goods and is used for buying other goods. Lewis Carroll's banker, who tried to buy off the "frumious Bandersnatch" with a check, might have enjoyed better luck had he showed the ravenous monster how the check could be exchanged for a hearty meal. The banker lost out by attempting to sell the protectionist's pet fallacy that money is an end in itself. Second, money seldom comes back to you directly from the same people with whom you spend it. When you pay money to Black for some of his goods, it is not likely that Black will spend the same amount on your goods. Instead, Black will buy from White, White from Brown, and so on, until Green, say, buys from you. It is the same way between communities, and between nations. International trade, like domestic trade, is triangular, or multiangular. For example, because we buy more from Brazil than we sell to her, Brazil is able to buy more from England than she sells there, and this makes it possible for England to buy more from us than she sells to us. Because sales tend to balance purchases indirectly, not

directly, it is easier to fall into the error of supposing that we are impoverished by buying more from any particular place than we sell there. Third, if we lend to outsiders, we can send out more goods than we take in. (That is, we can do so as long as this year's loans exceed the interest on past loans. When interest due exceeds present loans, we must either accept more goods than we part with or else forego interest payments.) But this is not really the same thing as selling more than we buy. What we are doing is exchanging present goods for a flow of future goods. Details like these, not to mention the emotions of nationalism, are allowed to obscure the essential fact that goods are exchanged for goods.

Say's Law

The demand for goods is the supply of goods. This fact was so stressed a century ago by a French economist, J. B. Say, that the proposition has come to bear his name. In reality, Say's law is much the same thing as the principle of reciprocity. Goods "supplied" in exchange for other goods are "demanded" with the goods exchanged for them. There probably would be no argument about this were it not that so many goods are traded and that they are traded through the medium of money and credit. Suppose all trade consisted of direct barter between iron and wheat. Clearly the demand for iron would consist of the wheat supplied for iron; the demand for wheat, of the iron supplied for wheat. Certainly the total demand for goods would consist of the wheat and iron exchanged. We would not talk of increasing the demand for goods by destroying wheat or reducing the output of iron. We would not say that improving the methods of producing the two would cause general overproduction. Nor would we think that our "purchasing power" could be increased in any other way than by expanding the output. Yet mistakes of this sort are common.

OVERPRODUCTION

The idea that "overproduction" ought to be curbed often goes far beyond the mere fact that the production of particular things—such as cotton at the present time—gets out of proportion to the production of other things. It is inferred, if not directly stated, that production *in general* is too great and should be reduced. Consider the proposal, advanced by the American Federation of Labor during the depression of the early 1930's, to bring about a general reduction of the hours of labor to thirty a week. Leaders in this organization saw that overproduction in certain industries made for depression and unemployment

in these industries. But from this they seemed to infer that unemployment in general is caused by general overproduction, and that matters would be improved by a general limitation of output. On the contrary, any general limitation of output would merely decrease the general demand for goods. Goods in general are bought with funds received in exchange for goods in general. It is true that the ability of *part* of the people of an economy to buy goods may be increased by means of money which, instead of having been received in exchange for goods, is created by bank loans. But, unless the bank loans serve to increase the total output of goods, the ability of *other* people to buy goods is decreased correspondingly. "Purchasing power," in the sense of the ability of an economic society to buy goods, consists in the supply of goods in general, decreasing as this supply decreases and increasing as it increases. The standard of living of the people as a whole is raised by anything which increases production without increasing the population correspondingly.

DESTRUCTION AND DEMAND

From espousing restrictions of output it is only a short step to imagining that the destruction of products already made is a good thing. For wholesale destruction, there is nothing like a major war. Somebody has said that asking "Who won the war?" is like asking "Who won the San Francisco earthquake?" Yet people will argue that both wars and earthquakes increase the demand for goods. Pondering on the wreckage, they reason that reconstruction will call forth a "chain of purchases" which will expand the demand for goods and labor in general. To be sure, it will start a series of purchases. But this series will merely take the place of the series which would have been made had the destruction not occurred. Labor and other resources will have to stop producing certain things in order to engage in reconstruction. Thus the total amount of goods and, therefore, the total demand for goods will be less than before. It is true that *some* people may benefit from destruction. Contractors, carpenters, and similar people, may gain more by the concentration of demand on their particular services than they lose by the general reduction of wealth. King George V had the right idea when he remarked that the destruction of shirts by the laundry is a good thing—for the shirt trade.

SAVING AND DEMAND

Another version of the "chain of purchases" has it that saving decreases demand. Economic depressions have even been "explained"

in this way. We save so much money that there is not enough left to take goods off the market at profitable prices. The idea seems to be that people do not spend what they save. Either that or else "goods" do not include durable goods like houses and machinery. But goods do include durable goods, and savings are spent on durable goods. Perhaps this fact is overlooked because the spending is usually indirect. That is, the investment of funds in capital equipment takes place through banks and business corporations, as described in Chapters VI-VIII.¹ The "dilemma of thrift" error also takes the form of supposing that the savings of such and such a frugal person are kept out of circulation, thus failing to help trade. Incidentally, even the hoarding of a miser need not hurt other people. Indeed, it tends to give other people that much more goods for their money. But in reality savings are not typically hoarded. They are usually placed in savings institutions which normally cause them to circulate.

EXTRAVAGANT EXPENDITURES

Not unnaturally, the "chain of purchases" delusion justifies extravagant expenditures on the ground that they "create" demand for goods and labor. If a motion-picture producer spends thousands on a gown for an actress, if a wealthy man spends tens of thousands on a residence which is unoccupied much of the time, if a government spends fifty millions on a battleship which will be used in destruction if used at all, this is nothing to worry about. It all "makes work" for the poor! In view of the elementary fact that resources used for purposes like these cannot be used to make other things, it seems strange that such a conclusion can be reached. Yet it can be and frequently is. Sometimes it serves as ointment for a guilty conscience. In other cases it is the result of forgetting that the purchases initiated by wasteful expenditures are substituted for other purchases of a better character.

GOVERNMENT SPENDING

It is possible, however, to make expenditures which add to total spending, which are not merely substituted for other expenditures which would have been made anyway. This may be the case with the emergency expenditures of governments during a depression. Private spending is at a low ebb. People who have witnessed a great fall of prices are

¹ It is true that saving and investment get out of line, and that the disequilibrium between the two has much to do with depressions. But this does not justify the generalization that saving decreases demand. As explained in Chapter XXI, the trouble is caused mainly by changes in the rate of investment, not by changes in the rate of saving. Further, the investment can be too rapid, as well as too slow.

fearful of the future and reluctant to purchase goods. Funds which they have previously received for goods they now decline to exchange for other goods. The result is to depress prices or retard their recovery. An opportunity is thus created for what has come to be called "pump priming."

The general idea of pump priming may be briefly stated as follows. The government gets command over idle funds, and it pours them into circulation faster than the pessimists who receive them convert them into stagnant bank deposits or hoards of cash. The increase of circulating funds, in relation to goods, starts prices upward. This puts an end to the former tendency to wait in order to take advantage of lower prices at a later time. Business confidence is restored. As the "pump" of exchange now draws increasingly from the reservoir of private funds, governmental priming is tapered off and eventually discontinued. This is the idea. But there are serious practical difficulties. Large and cumulative government expenditures are required, such as spending on public works. The funds must be raised largely by borrowing, or printing paper money, or both. The program must not do more harm than good to business confidence. For example, it may cause fear of a mounting public debt, fear that it will fail to raise prices, fear that it will raise prices too much, fear of wasteful expenditures, fear that it will be badly timed and badly placed, fear that the government will build projects which will compete with private enterprise. During the depression of the 1930's public projects had to be devised so hastily, and the temptation to "politics" of various kinds was so inviting, that the potential merits of government expenditures on "work relief" in the United States had hardly a fair experimental test.²

FOREIGN LOANS

Do foreign loans decrease the demand for the products of the country making the loans? In a little book attacking British investments in India and Germany, the British Labour party contended that this is the case. The argument ran that the borrowers use the funds largely for the purchase of productive equipment, thus becoming better able to produce for themselves what they formerly imported. It is true that they are likely to import less of the particular things which they now engage in producing. But general reasoning would not lead us to expect that their total imports will decline. Since demand depends on supply, we

² As a means to recovery from depression, public expenditures are further discussed in Chapter XXI. As a measure for equalizing personal incomes they are discussed in Chapter XXVIII.

should expect, instead, that countries increasing their productivity by borrowing will eventually import more than before. Actual experience bears out this reasoning.³ Between 1904 and 1924, India's imports of manufactures increased from £9,500,000 to £174,700,000; and Germany had become, at the time the World War began, the largest European buyer of British goods. But Germany, too, when she grew rich enough to lend, was harassed by the idea that loans are likely to strengthen the borrower too much. Her ruling class decided that Germany's outside investments must be directed to regions under German political control, and Germany embarked on her fateful quest for a "place in the sun."

QUALIFICATIONS

But the principle that the demand for goods is the supply of goods must be handled with care. It is axiomatic only for goods which are actually exchanged. J. B. Say pointed this out when he observed that a product "affords a market for other products to the full extent of its *value*." No given product creates a demand for *itself*; and any product must be subject to exchange in order to have exchange value, namely, to create demand for *other* products. To illustrate, the power loom rapidly threw many handloom weavers out of work, because the exchange value of cloth woven on hand looms was greatly reduced by the introduction of cloth woven on power looms. Whether the reduction of cost effected by power looms increased or decreased total expenditures on cloth, the impact on handloom weavers was much the same. Suppose it increased these expenditures. The demand for the services of *handloom* weavers was nevertheless reduced. Or suppose it decreased these expenditures, thus releasing buying power for the purchase of other products. To find jobs, the handloom weavers were nevertheless obliged to accept lower wages, because the demand for *their* special services was decreased. Similar results have been wrought by the introduction of any number of laborsaving devices, such as machines for making bottles, for planing stones, for lasting shoes, for stoking fires.

For practical purposes Say's principle of exchange is qualified to just such extent as the process of exchange goes wrong. Exchange is held up when the price level is affected by changes in credit conditions. When prices are falling rapidly, people are reluctant to exchange money for goods, and, when prices are rising rapidly, they are reluctant to exchange goods for money. Exchange is obstructed also by monopoly conditions and by international trade barriers. It is impaired by the excessive production of particular commodities, by economic fluctuations,

³ See Parker T. Moon, *Imperialism and World Politics* (1926), pp. 537-38.

by currency manipulation, by war, and so on. Although value-demand and value-supply are equal in spite of these obstacles, the obstacles reduce both sides of the equation. The principle that demand equals supply is both correct and important; but its importance, unfortunately, is often brought to our attention by the breakdown rather than by the smooth working of our system of exchange.

The Principle of Equilibrium

It would be harder to forget that trade is reciprocal and that the demand for goods is the supply of goods if it were easier to remember that there is an equilibrium, a balance, among different products. A "perfect" equilibrium implies that all equally good units of any agent of production, such as land and labor, are so distributed among the different fields of production that they are equally productive, per unit of time, in all fields. The value, in terms of satisfaction yielded, of the outputs of all fields together would be less than it is if the number of units of the agent in question were either increased or decreased in any field of production. However, an equilibrium need not be "perfect" in order to be an equilibrium. All that an equilibrium necessarily implies is an established proportionality among different products and the industries which produce them. It may be in some respects an uneconomical equilibrium. For example, a country in which dyestuffs are protected by tariff from foreign competition, and in which steel is monopolized, is likely to produce too much dyestuffs and too little steel. Still, there can be an equilibrium in the sense that the comparative sizes of different industries are not subject to rapid change.

When the demand and supply of certain products become unstable, there is a correspondingly unstable equilibrium. Changes in demand and supply cause unbalanced production, namely, overproduction of some things and underproduction of others. In the following way, this situation is often mistaken for general overproduction. Unbalanced production makes for depression. During a depression the circulation of money and credit is so sluggish that there is a general decline in the monetary demand for goods. Thus everything seems to be overproduced. An aspect of depression itself is then mistaken for a cause of depression. General overproduction, or an insufficiency of purchasing power, as the case may be, is alleged to be the source of the trouble. From this erroneous reasoning it is natural to reach the false conclusion that the proper remedy is a general limitation of output, or an increase in the amount of money and credit, or both. A misunderstanding of the equilibrium principle leads to a confusion between cause and effect.

If productive power moved instantly to the points of highest productivity, the balance among different products would be determined purely by comparative demands and comparative costs. Actually, of course, it does not move so freely as this. Still, it does move; and, in the long run, its distribution among different products is determined *mainly* by comparative demands and comparative costs. High demand and low cost make for a relatively large output of any given product, low demand and high cost make for a relatively small output.⁴ Unbalanced production can be caused by rapid changes in either comparative demands or comparative costs. The World War furnished many examples of rapid change. Thus, the Allied blockade of Germany cut off the flow of German potash to the United States, thus intensifying the demand for our home-produced potash. The increased demand led to an additional investment of some \$25,000,000 in the American potash industry. On the resumption of peace, much of the investment became excessive. The situation was much the same with such non-ferrous metals as copper, manganese, and tungsten. In other words, a disequilibrium was created because comparative demands were thrown out of line with comparative costs.

The Principle of Comparative Costs

The meaning of "comparative advantage" and "comparative costs" may be illustrated by the story of the friend who was shocked to find President Lincoln performing menial labor for himself. "Why, Mr. Lincoln!" exclaimed the friend, "do you shine your own shoes?" And Lincoln is supposed to have replied, "Well, whose shoes should I shine?" On strictly economic grounds, the answer to Lincoln's question would have been, "Nobody's shoes." Those who hired Lincoln to serve as President could not afford to have him spend his time at shining shoes. The reason was not that Lincoln lacked ability as a bootblack. The chances are that he was a better bootblack than most bootblacks are, for he was a man of unusual stamina and dexterity. The reason was that his advantage was still greater in administrative work. His *comparative* advantage in administration put him at a comparative disadvantage in bootblacking. This fact can be brought home forcibly by translating comparative advantage into comparative costs. If Lincoln were hired to shine

⁴ Behind money demand and money cost stand "real" demand and "real" cost; that is, intensity of desire and difficulty of production. Thus the determination of the balance among products can be stated like this: The more intensely a commodity is desired, and the easier it is to produce it, the greater will be the output of the commodity. The less intense the desire, and the greater the difficulty of production, the smaller will be the output.

shoes at the salary which he earned as an administrator, the cost of shines would be very high. And, even at bootblacks' wages, presidential services would cost us dearly if a bootblack were hired to perform them.

COMPARATIVE ADVANTAGE AND TRADE

Any region or country, as well as any person, gains by trading products in which it has comparative advantage for products in which it is at comparative disadvantage. As far as soil and climate go, most of the North Central part of the United States is well adapted to the growing of sugar beets. Yet most of the beets are produced in the Far West. The reason is that the comparative advantage of the North Central region lies in other products while the Far West enjoys comparative advantage in beet-growing. Around 1905, Professor Taussig informs us, the annual labor of one man would yield over twice as much brick in the United States as in Germany, while it would yield considerably less than twice as much beer.⁵ Despite our absolute advantage, we were at a comparative disadvantage in the production of beer. Hence we could afford to import German beer. In the same decade, Great Britain was at an absolute disadvantage, relative to the United States, in the production of pig iron, refined sugar, flour, butter, and ice. Yet she had a comparative advantage in these commodities, in the sense that her absolute disadvantage was still greater in steel and tin plate.⁶

In order to bring out sharply the distinction between *absolute* advantage and *comparative* advantage, let us make use of an arithmetical illustration. Assume that one day of labor is capable of producing

IN REGION A
8 bushels of corn
2 knives

IN REGION B
2 bushels of corn
1 knife

Now A has an absolute advantage over B not only in corn but also in knives. But A does not have a comparative advantage over B in knives. On the contrary, A is at a comparative disadvantage in producing knives. In A it takes four times as much labor to produce one knife as it takes

⁵ F. W. Taussig, *International Trade* (1928), pp. 163-94.

⁶ To be strictly accurate, comparative advantages and costs are a matter of equilibrium among all the products of all the regions entering into trade relations. Thus, a region possesses a comparative advantage in wheat *up to a certain output*. When this output is reached, comparative advantage disappears; when this output is exceeded, comparative disadvantage sets in. The comparative costs of several commodities may be the same in several regions at once, provided each region preserves the right proportions among the commodities. Indeed, differences in comparative costs of goods actually produced in two or more regions are a sign of a faulty equilibrium. See the discussion below.

to produce one bushel of corn while in B it takes only twice as much. Consequently there is a basis for mutually beneficial trade. A would not lose anything by trading as much as 4 bushels of corn for 1 knife, and B would not lose by accepting as little as 2 bushels of corn for 1 knife. At any intermediate ratio between 4:1 and 2:1 both will gain. Suppose they split the difference, by trading at the rate of 3 bushels of corn for 1 knife. Then, for a given amount of labor, A gets more knives than it could get by producing knives at home, and B gets more corn than it could get by producing corn at home.

COMPARATIVE MONEY COSTS

In reality, it is business firms, not regions or countries, which decide what is to be produced. Notice, now, why firms choose the line of comparative advantage. It is not merely that they can make more money in this way. The reason is stronger than this. They would *lose* money by doing anything else. To illustrate, you would lose money by hiring lawyers for farm hands. You would have to pay your men what they could command as lawyers. The lawyers might be better than average farm workers, but they would not be enough better to offset their high wages. Thus your costs would be so high that you could not compete successfully with other farmers. The result would be similar if you hired ordinary farm hands for lawyers. Their daily wages would be lower than real lawyers' daily wages, but not enough lower to make up for their extraordinary inefficiency as lawyers. The thing that counts is wages *per unit of product*, not wages *per day*. Productive agents must be paid for according to their value in employments where they work at comparative advantage, and this means that those who use them in fields of comparative disadvantage will lose money by doing so.

Perhaps the point may be clarified by continuing our arithmetical illustration. Assuming Regions A and B to carry on trade in the ratio of 1 knife for 3 bushels of corn, 1 knife has three times the exchange value of 1 bushel of corn. Let us express this by pricing corn at \$1.00 a bushel and knives at \$3.00 each. We can now convert labor costs into money costs. In A, wages will be \$8.00 a day, because a day's labor can produce \$8.00 worth of corn. In B, wages will be \$3.00 a day, because a day's labor can produce \$3.00 worth of knives. This will make corn cost \$1.00 a bushel in A and \$1.50 a bushel in B. And it will make knives cost \$3.00 each in B and \$4.00 in A. Leaving transportation costs and artificial restrictions on trade out of account, producers would lose money by producing corn in B and by producing knives in A.

FOREIGN CHEAP LABOR

It is commonly supposed that high American wages make American costs of production high. We are told that the products of foreign cheap labor will drive similar American products out of the American market unless we impose high import duties on the foreign products. The facts show that this is not the case. In practice, wages in American export industries run rather higher than American wages in general. Thus goods produced by our high-paid labor compete successfully with the products of foreign low-paid labor not merely in the American market but in foreign markets as well. Although American coal miners are paid much more than British coal miners, our labor cost is less than two hours per ton of coal, while theirs is more than seven hours. In the European market, American producers sell rice at a profit in competition with Oriental producers who pay only about one-twentieth our daily wages. But it is only our *daily* wages which are higher, not our wages *per pound of rice*. If low daily wages meant low cost, minerals would be produced at very low cost in Bolivia, where Indian workers are lucky to get fifty cents a day. But the labor is so inefficient that the cost is not low, and machinery is substituted for labor wherever practicable. Low daily wages do not have much to do with Japan's success in marketing textiles. Until the 1920's, wages per yard of fabrics woven were higher in Japan than in the United States. It is superior organization and equipment which chiefly explain the extraordinary Japanese progress of recent years.⁷

To continue further our arithmetical illustration, notice that A's high wages of \$8.00 a day do not put it at a disadvantage in competing with the "foreign cheap labor" of B, whose wages are only \$3.00 a day. For purposes of corn production, \$8.00 a day are *low* wages in A and \$3.00 a day are *high* wages in B. What counts is wages per bushel, not wages per day. And B has the advantage in knives, not because daily wages are lower than in A, but because wages per knife are lower than in A.

⁷ With respect to equipment, it is the British producers, rather than the American, who are at an especial disadvantage in comparison with the Japanese. In the spinning of cotton yarn, the British have between three and four times as many spindles as have the Japanese; but the British have a high proportion of the old-fashioned mule spindles, whereas almost all the Japanese spindles are ring spindles. In the weaving of cotton fabrics, the story is much the same. Most of the Japanese power looms are automatic, while only about a tenth of the British looms are of this type. However, the Japanese producers have been helped to some extent in other ways. The depreciation of the Japanese currency has had the effect of lowering the real wages of the textile workers. There is also a system of contract labor: under semimilitary conditions, children are sent to work in the mills, where they receive low wages which are sent home to the parents. See Lewis L. Lorwin, *The World Textile Conference* (1937).

COMPARATIVE COSTS AND EQUILIBRIUM

Up to the present point, the explanation of comparative costs may seem to prove too much. For how, it is fair to ask, can a region produce anything in which it does not enjoy a comparative advantage, and how can it have a *comparative* advantage in more than one thing? Must not some one product in which it has the greatest absolute advantage of all set wages, rent, and so on, at figures which will cause money to be lost if anything else whatever is produced? It would seem, for example, that we ought to find the Dakotas producing nothing but wheat, and England producing no wheat at all, but that is not the situation which we actually do find. The answer is that this would happen if variations in the outputs of different commodities had no effects on costs. But they do have effects.

In mining, extensions of output soon increase costs of production, because it becomes necessary to use inferior veins of ore and to work given veins more intensively. The utilization of land undergoes a similar change if farming operations are extended on a wide scale. In other industries, even though they are not strongly dependent on natural resources, greatly enlarging the output also leads to increasing cost. Among the reasons is the way in which declining industries turn over labor to expanding industries. For example, radios are taking the place of phonographs, and the radio industry is absorbing laborers from the phonograph industry. The first laborers to move are those who, by natural aptitude or training, are relatively well qualified to produce radios. As the radio industry continues to expand, however, the labor which moves into it is progressively worse adapted to radio production, and the result is increasing labor cost. The case is similar with other productive agents. Striking illustrations of this tendency were provided by the World War. At the same time that many skilled workmen were drawn into military service, the demand for certain products mounted with unusual rapidity. The resort to progressively inferior labor and other agents in mills, mines, and factories was thus abnormally pronounced, and costs rose spectacularly.

The consequence is that a region's comparative advantage in producing a given commodity disappears, and comparative disadvantage sets in, when a certain output is exceeded. Any region possesses some diversity of resources; and a country, of course, exhibits more diversity than any of its subdivisions. Thus in order to have some diversity of production a country is not obliged to be protected by transportation costs, import duties, and so on, against the competition of foreign prod-

ucts. It can produce many things, provided it holds the output of each product within proper limits. France mines *some* of the coal she uses, but gets the rest of it cheaper by trading for it than she could get it by mining it at increasing cost. The British Isles produce about a fifth of their wheat, and around half of their cereal grains in general, at costs as low as those which prevail in America. They produce most of their meat, and not far from half of their wool. They can produce but little of their flour, however, and none of their sugar and tobacco, without running into comparative disadvantage.

Thus differences of comparative costs are really a sign of unbalanced production. They tend to disappear, and would not exist at all if the right *equilibrium* among the different products of each region could be reached and kept. They appear in practice because changes in demand and cost keep calling for changes in the balance among products. Shipbuilding affords an illustration of this fact. Around the time of our Revolutionary War, Massachusetts towns could build oak vessels at half the European cost per ton, in spite of the fact that American labor was much more dear than European labor. After the Civil War, however, American labor and capital became so valuable in railroad extension and Western expansion that most of our shipbuilding industry fell into a position of comparative disadvantage.

To return once more to our arithmetical illustration, both Regions, A and B, will produce both corn and knives. By producing a relatively small amount of corn, and by using only the resources best adapted to this purpose, B can produce as cheaply as A produces when A is devoting a great deal of resources to corn production. Similarly, A can produce a relatively small output of knives as cheaply as B can produce a relatively large output of them. Thus, the cost differences of our illustration can exist only as long as each of the two regions produces the two commodities in the wrong proportions—only as long as each does not have the right “equilibrium” between the two.

The money prices which express the exchange values of goods are worked out in the process of exchanging goods for goods. The fact that goods are exchanged for one another through the medium of money should not be permitted to obscure the fact that goods are traded for goods. The demand for goods consists of the supply of goods offered in exchange. The outputs of different commodities tend to reach an equilibrium determined by comparative demands and comparative costs. But the equilibrium is being constantly affected by continual changes in comparative demands and comparative costs. On this understanding,

we turn next to a description of the "supply" and "demand" that determine prices.

PROBLEMS

1. "Spend your money at home. Don't stifle home industry by patronizing mail-order houses. Sell outside, but don't buy outside, and you will make the home town rich. Above all, don't buy abroad. Sending money out of the United States decreases the demand for American products and ruins American farmers, manufacturers, and workers." Discuss.

2. "I don't know much about the tariff, but I do know this: When we buy steel rails from foreigners, we get the rails and they get the money; but when we buy rails at home we have the rails and the money both." Discuss.

3. "Our trade relations with Brazil show the error of supposing that we could increase our exports by increasing our imports. The Brazilians do not buy nearly so much from us as we buy from them. We really ought to improve our balance of trade by reducing our imports from Brazil to an equality with our exports to Brazil." Discuss.

4. "Depression is caused by the fact that our output is too large to sell at profitable prices." Discuss.

5. "Constant changes in styles are a good thing, and for this reason: Since they make consumers buy more clothes, the clothing dealers and manufacturers spend more on raw materials and manufactured articles, whereupon manufacturers, farmers, and so on, do more buying, thus starting a general wave of prosperity." Discuss.

6. "As an undesirable citizen, my next-door neighbor will do. He keeps money out of circulation and hurts business by saving three cents out of every nickel he gets. To deprive laborers of work he even mows his own lawn. I wish a cyclone would blow the roof off his house. That would at least increase the demand for goods and labor. If he would trade in his used car every year, and send his kids to the movies every day, the way I do, he might help out his fellow men a bit." Discuss.

7. "The only thing all this government spending can do, besides buying votes, is to decrease private spending correspondingly. That can never relieve a depression; and, since the public expenditures are wasted anyhow, it can only make matters worse." Discuss.

8. Explain the meaning of "economic equilibrium." Of "unbalanced production." How may unbalanced production be mistaken for general "over-production" and a deficiency of "purchasing power"?

9. We can only make ourselves poorer by purchasing abroad anything that could be produced with less labor and capital at home. Discuss.

10. "In producing wheat, American farm labor at four dollars a day cannot compete with British farm labor costing less than half this amount. If we want to keep on producing wheat, we'll have to use a high tariff to keep British wheat from taking our own market away from us." Discuss.

11. In view of the principles of comparative costs, why is it that we do not find whole regions each devoted to the production of a single commodity?

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X

SUPPLY AND DEMAND: *DEMAND*

Merchant adventurers, companies, and trusts; guilds, Governments and Soviets may come and go. But under them all, and, if need be, in spite of them all, the profound adjustments of supply and demand will work themselves out and work themselves out again for so long as the lot of man is darkened by the curse of Adam.¹

Supply and Demand and the Market

WHEN IT IS said that supply and demand determine the price of a commodity, a certain market is implied. A market may be interpreted as a place or an area in which the forces of supply and demand operate. Thus, the Chicago Board of Trade is a grain market, a place where grain is bought and sold. More accurately, a market consists of sellers' offers and buyers' offers, that is, of supply and demand, which come together. Of course this is not a full description of a market, since it does not describe the supply and demand that come together. But it will serve to emphasize one important fact: Supply and demand which do not converge do not belong to the same market.

When supply refers to one market and demand to another, supply and demand do not refer to the same commodity. Let us take shoes as an illustration. On their way to consumers, shoes usually pass through several markets. In each successive market they become a different commodity from what they were before, because certain valuable services are added to them as they go along. There is a materials market in which the sellers are producers of leather, and the buyers are shoe manufacturers (although both sides may choose to act through middlemen). Then there is a manufacturers' market, in which manufacturers sell to wholesalers. Here the commodity changing hands is shoes. But it is not yet *consumers'* shoes. It must still be stored, transported, brought to the attention of buyers. Such services are added in two subsequent markets.

¹ H. D. Henderson, *Supply and Demand*. New York: Harcourt, Brace and Company, 1922, p. 17.

There is still a wholesale market in which wholesalers sell to retailers, and a retail market in which retailers sell to consumers. Wherever there are differences of services there are different commodities.

The Meaning of Demand

The "demand" for a commodity means the quantities which buyers stand ready to take, in a given market, at a given time or in a given period of time, at all the prices of a series.

EFFECTIVE DEMAND

"Standing ready" signifies not merely willingness but also ability to buy. It signifies desire plus purchasing power. "If wishes were horses, beggars might ride." But mere wishes, hunger, or desires are not economic demand. To distinguish between desire and demand, economists sometimes use the expression "effective demand." The meaning is illustrated by the way in which a coroner's jury is said to have explained the fate of a man who had died of starvation. "Death," said the learned jury, "was caused by ineffective demand." H. M. Stanley, the African explorer, seems to have forgotten the "effective" part of "demand" when he was telling the Lancashire textile men how to put their industry on easy street. He gave them a stirring account of how their mills would hum as soon as the Congo natives should be made ashamed of their nakedness, at least on Sundays. Wu-ting Fang proposed to accomplish the same thing by inducing Chinese to add half an inch to their shirt-tails. But firing natives with a zeal for raiment was not equivalent to increasing the demand for cloth. The desire would have had to be supported by wealth.

EXPECTED DEMAND

Demand refers to a given time or period of time. Present supply and future demand do not come together. The result of acting as if they do is likely to be disappointing. Thus, selling corporate shares out of all proportion to the value of existing assets is sometimes defended on the ground that the funds thus raised are to be put into equipment for whose products there *will* be a demand. Although it is true that production and equipment must anticipate demand, the anticipation is easily overdone. Some years ago Sidney Smith used his famous cartoon character, Andy Gump, to illustrate the point. According to Andy, millions of people must at once see the advantage of a single toilet article combining a hairbrush on one side and a mirror on the other. Since the product was to take the country by storm, the investment in the "combination

hairbrush and mirror" enterprise was enormous. The only trouble was that the demand did not come up to expectations. If this imaginary case was comic, the actual overextension of American railways was not. Early railroads were built, as C. F. Adams observed, from where no one lived to where nobody wanted to go. It was not strange that a fourth or more of our entire railway net was to be found in the hands of receivers at one time, and that inequitable rates were charged to prevent insolvency from becoming even more widespread. In 1932 most of the Class I railroads of the United States were operating at a loss. The supply of railway service had been made tremendously excessive in relation to a demand which was to be whittled down by a general depression and the competition of motor trucks and buses.

DEMAND SCHEDULES

Demand refers to the quantities which buyers stand ready to take at all the prices of a series. That is, demand means a *demand schedule*. Such a schedule consists of *alternative possibilities*. It means that buyers would take a designated quantity at the highest price in the series, or another designated quantity at the next lower price, and so on. Let us illustrate, first with a numerical example, then with a graph.

NUMERICAL ILLUSTRATION OF DEMAND

Assume that in a competitive wheat market five buyers, considered first individually and then collectively, stand ready to purchase bushels of wheat as follows:

PRICES	BUYER A	BUYER B	BUYER C	BUYER D	BUYER E	ALL BUYERS
\$1.02	900	0	0	0	0	900
\$1.01	930	20	0	0	0	950
\$1.00	955	35	10	0	0	1,000
\$0.99	975	50	20	5	0	1,050
\$0.98	995	60	30	10	5	1,100

Each individual demand schedule consists of alternative possibilities. Buyer A, for example, stands ready to take 900 bushels at \$1.02, or 930 bushels at \$1.01, and so on. Thus this buyer would take 900 bushels at \$1.02, whereas at \$1.01 he would take 30 bushels more (not 930 more) than at \$1.02. Here the *increment* of demand at \$1.01 is 30 bushels. Now, the quantity demanded by all buyers at any given price is simply the sum of the quantities demanded by different individual buyers at this price. Therefore the market demand schedule, like each individual demand schedule, consists of alternative possibilities. It means that the market demand is 900 bushels at \$1.02, or 950 bushels at \$1.01, and so on.

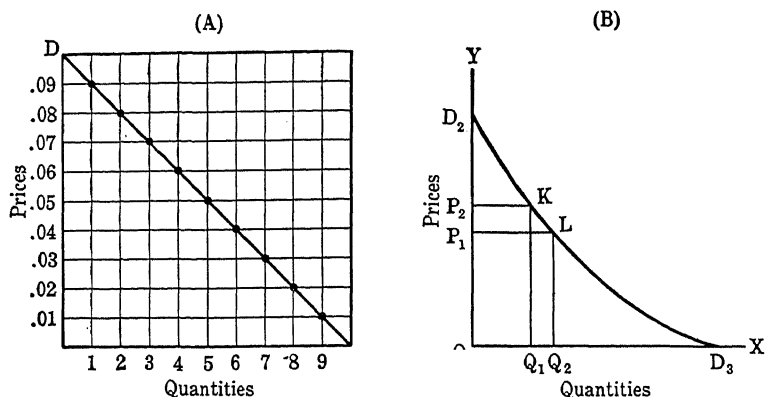
In our illustrative demand schedule, the quantity demanded is represented as varying inversely with the demand price: the lower the demand price, the larger the quantity demanded. This is typical of demand schedules, and for two general reasons. The first general reason is that all buyers are affected by what economists commonly call "diminishing marginal utility." That is to say, the intensity of the buyers' desire for another unit of a given commodity decreases with increases of the number of units available. Whether they "must" have it or not, people like variety. In the Arctic, Stefansson demonstrated the possibility of living on no other food than meat. But he admitted that eating lost much of its pleasure, and no doubt the intensity of his desire for meat would have declined much more rapidly than it did had he been able to get other forms of food. Thus the marginal utility of any particular thing is affected not only by the available quantity of that thing but also by the available quantities of other things. People compare the utilities of different things, and tend to spread their money expenditures in such a way that every dollar of expenditures yields the same amount of utility. In the family budget, for example, the utility of a year in college for Son may be weighed against the utility of a vacation for Father, the utility of a coming-out party for Daughter, and so on. The second general reason why quantity demanded usually varies inversely with demand price is that buyers differ with respect to tastes and incomes, and, therefore, with respect to willingness and ability to buy. For both of the general reasons outlined, the demand schedule for any commodity of importance is likely to show some variation of quantity demanded with each variation of demand price.

GRAPHIC ILLUSTRATION OF DEMAND

A demand schedule can be represented conveniently by a line graph. To illustrate simply, assume that the quantity of demand for a given commodity is 1 unit at 9 cents, 2 units at 8 cents, and so on to 9 units at 1 cent. To show this on a two-dimension graph, make a rectangle which arranges prices along the vertical and quantities along the horizontal, as in part (A) of the figure on page 150. Next, dot in the quantity which corresponds with each price. Then join the dots with a line. This gives us the linear demand schedule DD_1 . A graph possesses the advantage that it represents a more continuous variation of both price and quantity than does a numerical illustration. The relations between price and quantity are also more apparent to the eye when presented by a graph.

In actual cases, linear demand schedules are almost certain to be

curves of some sort, not straight lines. Further, where we are dealing with *principles*, rather than specific prices and quantities, the demand may be represented as in part (B) of our figure. Here prices are indicated along the vertical axis and quantities along the horizontal axis, as they are also in part (A), but in the present case they are designated by



letters instead of numbers. Along the price axis, OY , prices increase in the direction of Y ; along the quantity axis, OX , quantities increase in the direction of X . In the demand schedule, D_2D_3 , any given point indicates two things: a demand price and a quantity demanded. Thus, at point K the price is OP_2 and the quantity is OQ_1 (equal to P_2K), while at point L the quantity is OQ_2 and the price is OP_1 (equal to Q_2L). Strictly speaking, of course, the term "quantity demanded," as related to a given price, means that the quantity in question *would be* bought if the price in question became the actual price.

"ACTUAL" ILLUSTRATIONS OF DEMAND

It will be noticed that we have used hypothetical rather than actual illustrations of demand. A brief study of the following case, drawn from

PERIOD	PRICES (\$) (To producers, per cwt.)	QUANTITIES DEMANDED (Hogs slaughtered, thousands)
1925-26	11.61	41,150
1926-27	10.27	43,090
1929-30	8.96	45,542
1927-28	8.85	47,370
1928-29	8.63	48,959
1922-23	7.41	50,612
1923-24	6.96	53,706

actual market conditions, will indicate the reason for this procedure.² The table shows, for the years 1922-30, the relations between prices of hogs and numbers of hogs demanded, as judged by numbers purchased for slaughter. Relatively small quantities are demanded at comparatively high prices, and relatively large quantities at comparatively low prices. Yet the figures do not give us a demand schedule—a set of alternative possibilities—for any given year. In 1925-26, for example, we have 41,150,000 demanded at \$11.61; but, since no other price-quantity relationship is indicated, we are given no alternative possibilities for this year. For each of the other years, similarly, only one price-quantity relationship is indicated and no alternatives are given. The trouble, then, with an “actual” illustration is this: In order to learn what the alternative possibilities of a demand schedule are, it would be necessary to vary the price *without varying the conditions of demand*. In other words, the variations of price must be caused purely by a variation of the conditions of supply. But in practice a variation of supply conditions requires time, and the passage of time permits more or less variation of the demand conditions as well. In the present case, it seems *probable* that the price variations were caused *mainly* by changes of supply conditions, but this is all. Changes of the demand schedule as a whole are discussed later in this chapter; changes of the supply schedule as a whole, in the next chapter.

ELASTICITY OF DEMAND

In a demand schedule, to repeat, the amount demanded varies inversely with the demand price. But the *comparative rates* of change of the two are important. Where a given quantity is demanded at a given price, *how much* would a given change of price affect the quantity demanded, and *how much* would a given change of quantity affect the demand price? This brings us to the problem of *elasticity of demand*. Let us begin with numerical and graphical illustrations of the meaning of elasticity of demand.

MEANING OF ELASTICITY OF DEMAND

In the following table, three significant types of elasticity are illustrated by demand schedules D_1 , D_2 , and D_3 . The demand schedule, in each case, consists of the Price column and the Quantity Demanded column. For simplicity's sake, only prices of \$8.00, \$4.00, \$2.00, and \$1.00 are used. D_1 displays *unit elasticity*—has an elasticity of unity. That is,

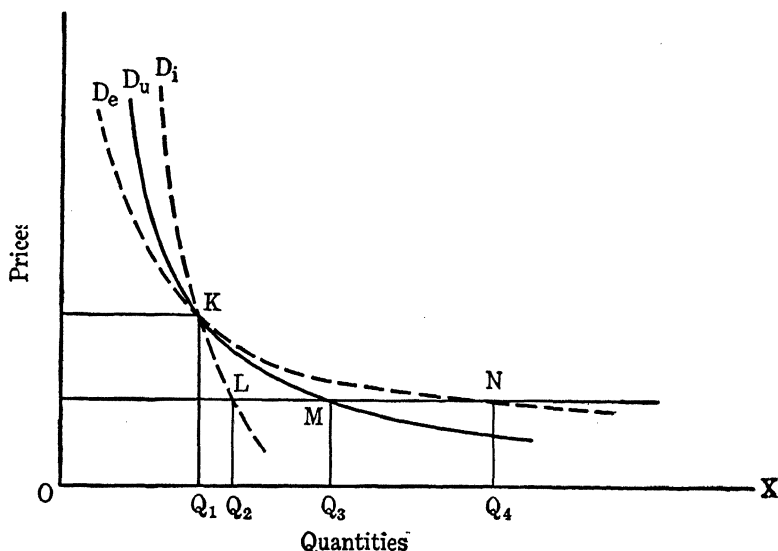
² Adapted from F. L. Thomsen, *Agricultural Prices*. New York: McGraw-Hill Book Co., Inc., 1937, p. 19. To simplify, I omitted 1924-25, when there apparently occurred a very pronounced “real increase” of demand.

PRICE	D_1 (Unit Elasticity)		D_2 (Elastic)		D_3 (Inelastic)	
	Quantity Demanded	Total Money Demand	Quantity Demanded	Total Money Demand	Quantity Demanded	Total Money Demand
\$8.00	1,000	\$8,000.00	1,000	\$8,000.00	1,000	\$8,000.00
\$4.00	2,000	\$8,000.00	4,000	\$16,000.00	1,800	\$7,200.00
\$2.00	4,000	\$8,000.00	16,000	\$32,000.00	3,000	\$6,000.00
\$1.00	8,000	\$8,000.00	64,000	\$64,000.00	4,500	\$4,500.00

the total money demand—quantity demanded times demand price—is the same throughout. It remains a “unit,” the unit being, in the present illustration, \$8,000.00. Unit elasticity is the point of departure in measuring elasticity. Demand is elastic in so far as its elasticity is greater than unity, and it is inelastic in so far as its elasticity is less than unity. In D_2 the elasticity of demand exceeds unity. That is, with any given variation of price there is a more than corresponding variation of quantity demanded, and with any given variation of quantity there is a less than corresponding variation of price. Thus, if we go from \$8.00 to \$4.00, the second price is $1/2$ times the first price, while the second quantity is not $2/1$ but $4/1$ times the first quantity. In D_3 the elasticity of demand is less than unity. That is, with any given variation of price there is a less than corresponding variation of quantity demanded, and with any given variation of quantity there is a more than corresponding variation of demand price. Thus, if we go from \$4.00 to \$2.00, the second price is $1/2$ times the first price, while the second quantity is not $2/1$ but only $5/3$ times the first quantity.

In the graph below, the curve D_u represents a demand schedule having an elasticity of unity, the curve D_e represents an elastic demand schedule, and the curve D_i represents an inelastic demand schedule. A demand schedule running parallel with the quantity axis, OX , would be “absolutely elastic,” while a demand schedule running parallel with the price axis, OY , would be “absolutely inelastic.” The schedules are so placed on the graph that at a price of OP_2 the quantity demanded is OQ_1 (equal to P_2K) in all three schedules. Now, to show the differences of elasticity, change to the price OP_1 , which is just half of OP_2 . In the case of the demand schedule D_u , the quantity demanded at OP_1 is OQ_3 , or just twice the quantity demanded at OP_2 . Price times quantity is the same as before: the rectangles OP_2KQ_1 and OP_1MQ_3 are equal in area. In the case of D_i , the quantity demanded at OP_1 is only OQ_2 , or not nearly twice the quantity demanded at OP_2 . Price times quantity is much smaller than before: the rectangle OP_1LQ_2 is not nearly so large as the

Elasticity of Demand



rectangle OP_2KQ_1 . In the case of D_e , the quantity demanded at OP_1 is OQ_4 , or much more than twice the quantity demanded at OP_2 . Price times quantity is much greater than before: the rectangle OP_1NQ_4 is much larger than the rectangle OP_2KQ_1 .

DETERMINANTS OF ELASTICITY OF DEMAND

By comparing variations of quantities marketed with variations of prices obtained, it is possible to make roughly correct inferences concerning the elasticity of demand for some commodities. Thus, the demands for live hogs and live cattle seem to be inelastic; the demands for butter and for lamb at retail seem to be elastic; the demand for American wheat appears to be elastic until something more than the average annual output is reached, and inelastic after this amount is exceeded; and the demand for American corn seems to be elastic up to 80 or 90 per cent of the normal output, and inelastic afterward. But information of this sort is none too reliable, since other conditions besides amounts marketed are likely to change while prices are changing. This, as we saw above, is the weakness of "actual illustrations" of "demand." Thus it is necessary to supplement specific data by thinking about certain general conditions which affect elasticity of demand.

It is sometimes said that a "necessity" has an inelastic demand and a "luxury" an elastic demand. But this idea is vague at best. If "necessity"

implies physical or ethical necessity, the proposition is not true. To illustrate, the general demand for cigarettes is inelastic. Again, shopgirls commonly sacrifice "necessary" food for "unnecessary" adornment. Somebody has observed that "a necessity is something you can't get along without, but do, while a luxury is something you ought to get along without, but don't." At any rate, the proposition at the head of this paragraph should be reversed. That is, a necessity is anything which has an inelastic demand, and a luxury is anything which has an elastic demand. But there are other conditions which are more helpful in estimating elasticity of demand in advance.

Increasing the number of uses of a commodity tends to increase the elasticity of demand. To illustrate, corn can be used in a variety of ways for human food, and it can be used also for livestock feed and for fuel. If the present output of corn had to be used solely for human food, and if the food had to take the single form of cornbread, the inelasticity of demand would be more pronounced than it is. The point of satiety, the point of being completely "fed up," would be more closely approached: "diminishing marginal utility" would operate more strongly.

When several commodities are used together in fairly rigid proportions, no one of the commodities representing any large part of the total cost, the demand for any one of the commodities is much more inelastic than the demand for the whole group. The classical illustration is salt. Doubling the price of salt, since it will have very little effect on the cost of food, will cause very little decrease in the sales of food and the sales of salt. Doubling the price of food would decrease the sales of salt much more than would doubling the price of salt alone. Skilled labor presents another illustration. In the building trades, for example, the services of bricklayers, carpenters, plasterers, plumbers, electricians, and other skilled workers, stand in rather inelastic proportions. The wages of any *one* of these trades might be raised sharply without raising the cost of building substantially. Thus, plasterers might raise their wages 10 per cent without causing any serious decline in the sale of their services. But of course building operations tend to be greatly curtailed when all types of skilled craftsmen demand substantial wage increases at the same time.

The availability of substitutes makes for elasticity of demand. Suppose cane sugar and beet sugar are selling at about the same price. Then raising the price of cane sugar a little or dropping the price of beet sugar a little is likely to cause a comparatively great shift of buying from cane to beet. Our senators, when they were investigating the price of anthracite coal in 1916, soon learned that little headway could be made unless the price of bituminous coal also were investigated, since an increase in the

price of either type of coal causes substitution of the other type. The relations are similar between silk and rayon, between butter and oleomargarine, between hauls by rail and hauls by highway over short or moderate distances. In fact every commodity is more or less a substitute for every other, in the sense that the distribution of all expenditures among different commodities is affected by the comparative prices of all commodities. Moreover, the output of one or a few producers of a given commodity is a substitute for the outputs of other producers. Thus, one brand of a given commodity is a substitute for other brands, one country's output of a given commodity is a substitute for the outputs of competing countries, one producer's output of a given commodity is a substitute for the outputs of competing producers.

To illustrate the elasticity of demand for the output of a particular producer, take the case of standard brands of cigarettes. What determines the elasticity of demand for any one brand, say Camels? In other words, what is the nature of the alternative possibilities which make up the demand schedule for Camels in a *given* situation? Thus we start with an established price for all the standard brands, and a given distribution of total sales among the producers of these brands, and we ask what would happen to sales of Camels as a result of varying the price of Camels without varying the price of other brands. Say that the established price is 15 cents a package, that total sales are 10,000 packages a day, and that sales of Camels are 1,000 packages a day. Now an infinitesimally small reduction in the price of Camels would enable Camels to capture the whole market if all buyers considered all brands equally good. (Or much the same thing would happen if slightly better Camels than before were now offered at 15 cents.) Once Camels have captured the whole market in this way, however, the elasticity of demand for Camels becomes the same thing as the elasticity of demand for all standard brands taken together. Thus, using the price variation of 1 cent, the elasticity of demand for Camels in our given situation may be crudely illustrated as follows: 1,000 demanded at 15 cents, or 10,500 at 14 cents (here Camels take the whole market), or 11,100 at 13 cents (here and hereafter Camels already have the whole market), and so on. We have changed from the highly elastic demand for the output of one competing seller to the much less elastic demand for the whole output, which has come to be controlled by one monopoly seller. To refer to situations similar to this, there is a very elastic demand for the output of American wheat producers who are competing with foreign producers, and also for the output of one wheat farmer who is competing with other wheat farmers.

DEMAND SCHEDULES AND MARGINAL REVENUE SCHEDULES

The total gross revenue brought in by the sale of a commodity is equal to the number of units sold times the selling price. Now, the degree to which the selling price is affected by a given change in the quantity sold, or, to put it the other way, the degree to which the quantity sold is affected by a given change in the selling price, clearly depends on the elasticity of demand for the commodity. When variations of revenue are under discussion, it is sometimes convenient to use the conceptions of "average revenue" and "marginal revenue." Let us first take simple illustrations of the meaning of these terms. When the meaning is clear, we shall consider how elasticity of demand is related to the two ways of looking at revenue.

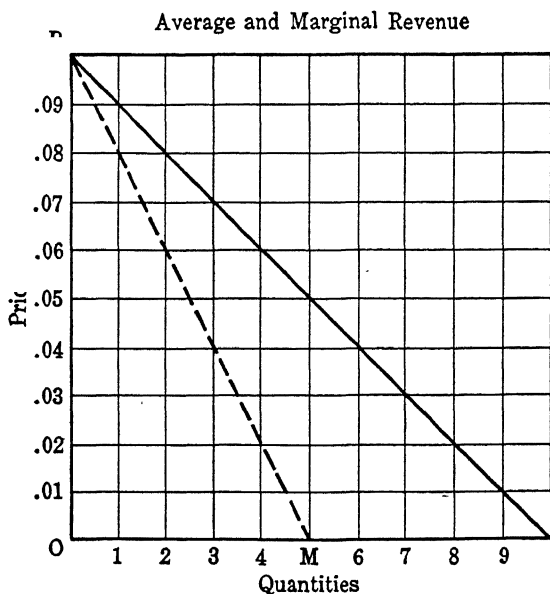
We use first a numerical table. The first and second columns together constitute a demand schedule. In the third column, Total Revenue, each item is equal to total money demand. That is, the total revenue is equal to quantity demanded times demand price. Thus, the total revenue if the price were 7 cents would be 21 cents, since 3 units would be demanded

PRICE (\$)	QUANTITY DEMANDED (Units)	TOTAL REVENUE (\$)	AVERAGE REVENUE (\$)	MARGINAL REVENUE (\$)
.10	0	.00	.00	.00
.09	1	.09	.09	.09
.08	2	.16	.08	.07
.07	3	.21	.07	.05
.06	4	.24	.06	.03
.05	5	.25	.05	.01
.04	6	.24	.04	— .01
.03	7	.21	.03	— .03
.02	8	.16	.02	— .05
.01	9	.09	.01	— .07

at 7 cents. In the fourth column, Average Revenue, each item is equal to total revenue (same as total money demand) divided by quantity demanded (same as number of units that would be sold). It is equal also, of course, to the price. Thus, the fifth item from the top in the Average Revenue column is 6 cents, since here the price is 6 cents and 4 units are demanded (and would be sold) at 6 cents. In other words, a total revenue of 24 cents for 4 units gives us an average revenue, or revenue per unit, of 6 cents. Each item in the last column, Marginal Revenue, shows how total revenue would be affected by selling at the next higher price. For example, the marginal revenue for a price of 6 cents is 3 cents, because the total revenue at this price is 24 cents (4 units at 6 cents each) while the total revenue for a price of 7 cents is

21 cents (3 units at 7 cents each). Again, the marginal revenue for a price of 4 cents is *minus* 1 cent, because the total revenue for this price is 1 cent less than the total revenue for a price of 5 cents.

The same situation is presented more accurately by the accompanying graph, because the graph gives us infinitesimally small price units

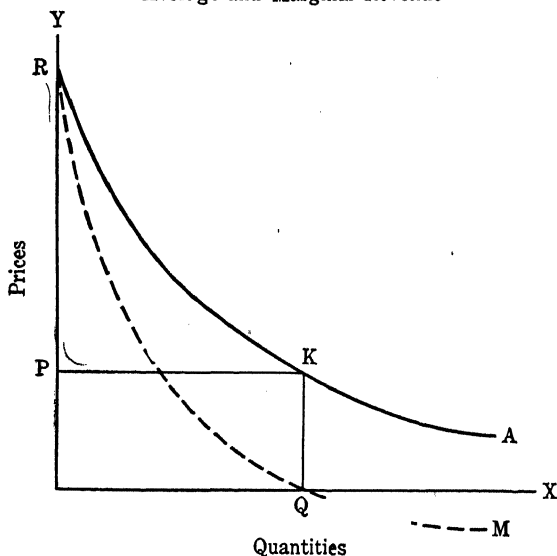


and quantity units while the table does not. In the table, there is no change of quantity until the price changes one full cent. Thus, the quantity is zero until the price is decreased all the way from 10 cents to 9 cents. In the graph, on the other hand, price and quantity both change continuously. Thus, the quantity increases from zero to $\frac{1}{2}$ when the price is decreased from 10 cents to $9\frac{1}{2}$ cents. Reflection on the average revenue schedule (AR) and the marginal revenue schedule (MR) will show that this makes a difference. Thus, the marginal revenue yielded by the first unit is 9 cents in the table while in the graph it is only 8 cents; the marginal revenue yielded by the second unit is 7 cents in the table while in the graph it is only 6 cents, and so on. The graph presents the more realistic picture of conditions in a large competitive market, where variations of price and quantity are highly continuous.

Now let us see how average revenue and marginal revenue are related to the elasticity of demand. Consider three cases, in all of which the quantity demanded varies inversely with the price. Take first a de-

mand schedule which has an elasticity of unity throughout. Since the total revenue (quantity times price) is the same throughout, the average revenue (total revenue divided by quantity) decreases throughout, and the marginal revenue (change of total revenue) is zero throughout. Take next a demand schedule whose elasticity exceeds unity throughout. Although the average revenue decreases, there is a positive marginal revenue throughout because each addition to the quantity adds to the total revenue. Consider, finally, the case of a demand schedule whose elasticity is less than unity throughout. From the fact that total revenue decreases throughout two facts follow. First, average revenue decreases throughout. Second, there is a negative marginal revenue throughout: each addition to quantity subtracts from total revenue. In the graph which appears just above, marginal revenue reaches zero where quantity reaches 5 units. This is because the demand is elastic until the quantity reaches 5 units and inelastic thereafter. Similarly, in the graph which accompan-

Average and Marginal Revenue



ies this paragraph, the demand is elastic up to a quantity of OQ and inelastic thereafter. Consequently, each addition to quantity from zero to OQ yields a positive marginal revenue, while each addition beyond OQ yields a negative marginal revenue.

Changes of Demand

We have seen that the term "demand" refers to the whole demand schedule while the term "quantity demanded" refers to a single part of

the demand schedule. It is therefore necessary to distinguish clearly between a change of demand and a change of quantity demanded. A change of demand means a change from one demand schedule to another. A change of quantity demanded, on the other hand, means a change from one part of a given demand schedule to another part of the same schedule. Confusing these two kinds of change is something like arguing that it is raining because people are carrying umbrellas: it is confusing cause and effect. A change of demand tends to cause a change of price, while a change of quantity demanded is the effect of a change of price.

MEANING OF CHANGES OF DEMAND

Either a numerical example or a graph will serve to illustrate the meaning of changes of demand.

Take first the following arithmetical illustration. The quantity demanded can be changed without the occurrence of any real change of demand. In the schedule D_1 , for example, 100 units would be demanded

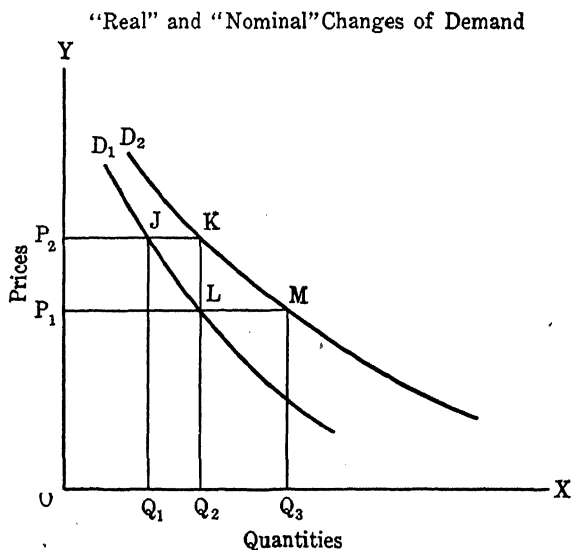
"REAL" AND "NOMINAL" CHANGES OF DEMAND

Demand Prices (Dollars)	Quantities Demanded	
	D_1	D_2
5.00	100	200
4.00	200	300
3.00	300	400
2.00	400	500
1.00	500	600

at \$5.00, or 200 units at \$4.00, and so on. Suppose that, purely because of a change in the conditions of supply, the price actually falls from \$5.00 to \$4.00. The result is that the quantity taken by the buyers increases from 100 to 200 units. But this is not a real increase of demand. The purchase of the additional 100 units represents no change in the attitudes of the buyers, who have stood ready all along to take 200 units *at a price of \$4.00*. Likewise an increase of the actual price from \$4.00 to \$5.00 would cause a decrease of 100 units in the quantity demanded—a merely nominal decrease of demand, not a real decrease. But now suppose that the demand schedule changes from D_1 to D_2 . This is a real increase of demand. It means that the buyers now stand ready to take 100 more units than before at \$5.00, 100 more than before at \$4.00, and so on. (Or, to state the proposition differently, it means that the buyers now stand ready to pay a dollar a unit more than before for 500 units, a dollar a unit more than before for 400 units, and so on.) Similarly, a change from D_2 to D_1 is a real decrease of demand.

Take next the following graph. Begin with the demand schedule D_1 .

At a price of OP_2 , the quantity demanded is OQ_1 , while at the price of OP_1 this quantity is OQ_2 . A decline of the actual price would cause an increase of the quantity demanded, but not an increase of demand; and a rise of the actual price would cause a decrease of the quantity demanded, but not a decrease of demand. Now suppose that the demand



schedule as a whole changes from D_1 to D_2 . Buyers now stand ready to take Q_2Q_3 units more than before at a price of OP_1 ; and they stand ready to pay P_1P_2 per unit more than before for OQ_2 units. Quantities demanded are larger at given prices, and demand prices are higher for given quantities. This is a real increase of demand. Similarly, a change from D_2 to D_1 is a real decrease of demand.

CAUSES OF CHANGES OF DEMAND

The causes of changes of demand are numerous. *New products* may drain purchasing power away from old ones. The demand for phonographs was decreased by radios; the demand for cedar shingles, by asphalt roofing; the demand for silks, by rayon fabrics. The demand for a product may be decreased by increasing the *durability* of the product. This is said to have happened in the case of automobile tires. *Installment buying* may change the demand for such goods as automobiles and radios, increasing the demand at first, but decreasing it later because people are saddled with debts on past purchases.

Changes of national income change the distribution of expenditures

among different products. Increases of income tend to decrease the percentage of income spent on food and to increase the percentage spent on clothing and sundries. They tend also to shift expenditures from some foodstuffs to others—from low quality beef to more expensive cuts, from wheat to fresh vegetables, fruits, and dairy and poultry products. In the forty years 1889–1929 the annual consumption of wheat flour per person in the United States fell from 224 pounds to 175 pounds. In the same period there was an increase in the per capita consumption of such commodities as tomatoes, citrus fruits, salad vegetables, and berries.

Fluctuations of the general price level also change the distribution of expenditures among different products. When this level is falling, as during a depression, the tendency is to concentrate on essential perishable goods, such as foods and fuels and textiles, and postpone purchases of durable goods in order to take advantage of lower prices later on. When the price level is rising, as during prosperity, the tendency is to spend relatively more on such durables as houses and machinery, thus avoiding the necessity of paying higher prices later.

Population changes have similar effects. As the average age of a population increases, the demand for goods used predominantly by young people tends to decrease. In Germany, 34 per cent of the population consisted of children under fifteen years of age in 1910; but, largely as a result of the World War, the figure was less than 26 per cent in 1925. Immigration has the opposite result, because the average age of immigrants is low. A rising birth rate and a declining infant mortality rate also have the opposite result.

Changes in import restrictions, either abroad or at home, affect the demand for goods moving in foreign trade. American producers of cotton, farm machinery, typewriters, and so on, suffered in the 1920's and 1930's from the rising tide of tariffs, import quotas, exchange controls, and other restrictions on imports. The rearrangement of political boundaries by postwar treaties has similar effects. Thus the division of Austria-Hungary among eight nations, in 1919, created new customs frontiers which separated the industries of Vienna from three-fourths of their prewar market.

Changes of transportation costs also change demand. After the opening of the Erie Canal in 1825, freight costs from Buffalo to New York City fell in a few years from \$120 to \$6 a ton, and the demand for the farm produce of western New York increased so sharply that land trebled in value. In the last two decades the automobile has been shifting the demand for housing to the suburbs of cities, making "blighted areas" of residential districts which lie near the business centers.

Perhaps the most amazing changes of demand known to history are caused by *great wars*. Among the leading materials required for modern war are steel, nitrate, potash, dyestuffs, chemicals, and nonferrous metals. If competitive conditions persist, the demand schedules for these goods rise far faster than it is practicable to expand output, and a momentous problem of profiteering arises.

PROBLEMS

1. In what way is the study of supply and demand related to the problem of economizing the use of productive agents and the consumption of products?

2. Discuss the following statements.

(a) A market should be explained in terms of supply and demand.

(b) Ice in the consumer's refrigerator is not the same commodity as ice at the ice plant.

(c) The hunger of a boy looking at candy in a shop window does not necessarily create a demand for candy.

(d) Existing supply and expected demand do not constitute a market.

3. Explain and illustrate the following propositions:

(a) The demand schedule of an individual for a commodity consists of alternative possibilities.

(b) A market demand schedule for a given commodity is a summation of individual demand schedules. It follows that a market demand schedule consists of alternative possibilities.

(c) The demand schedule for an important commodity in a large market is typically such that demand price and quantity demanded both vary continuously.

4. Discuss carefully the following statement: "It is impossible to give an actual illustration of a demand schedule. Only a hypothetical illustration can be given. Since this is the case, we have no right to say that quantity demanded varies inversely with demand price. In fact, demand schedules are not known to exist at all, and therefore what economists say about demand schedules is merely so much theory and has no practical usefulness."

5. Some years ago our Department of Agriculture estimated that at the following prices the following quantities of potatoes would be demanded:

PRICES	QUANTITIES DEMANDED
\$1.80	320 million bushels
\$1.40	360 million bushels
\$1.08	400 million bushels
\$0.80	440 million bushels
\$0.65	460 million bushels

(a) How was such a conclusion probably reached?

(b) Assuming the conclusion to be approximately correct, discuss the elasticity of demand for potatoes.

(c) Draw and explain the demand curve.

6. Draw and explain demand curves for unit elasticity of demand, elastic demand, and inelastic demand.

7. Explain why you believe the following propositions to be correct or incorrect, in whole or in part:

(a) The demand for table salt is inelastic solely for the reason that table salt is indispensable.

(b) The demand for coal in general is more elastic than the demand for fuel in general, and it is also more elastic than the demand for bituminous coal.

(c) The demand for one American farmer's wheat is more elastic than the demand for the wheat of all American farmers, but the demand for American wheat is less elastic than the demand for all wheat.

(d) The demand for the labor of any particular type of workers in the building trades is more elastic than the demand for the labor of building-trades workers as a whole. Therefore any given craft union in the building trades is likely to be less arbitrary in its wage demands than would be a single industrial union embracing all building-construction workers.

8. In 1916 the brewing of beer in England was reduced to less than a third the normal amount, but the price did not nearly treble. Draw and explain a demand schedule for beer. At about the same time, increases in the price of sugar failed to cause corresponding decreases of consumption. (Increases were effected, in this case, by government pricefixing.) Draw and explain a demand schedule for sugar.

9. We have here a numerical illustration of a demand schedule.

PRICES (Dollars)	QUANTITIES Demanded
10	0
9	100
8	200
7	300
6	400
5	500
4	600
3	700
2	800
1	900

(a) Derive the marginal revenue schedule.

(b) Graph the schedules of demand (average revenue) and marginal revenue. Point out and explain the discrepancy between marginal revenue in (a) and marginal revenue in (b).

(c) In the graph the demand schedule is a straight line. Yet part of it is elastic and the remainder inelastic. Explain. Explain why the marginal revenue is positive where the demand is elastic and negative where the demand is inelastic.

10. What is the status of marginal revenue in the case of a demand schedule which has an elasticity of unity throughout?

11. "Economists tell us that a decrease in the price of a commodity would increase the demand. In other words, an increase of demand and a *decrease* of price go together. But they also tell us that an increase in the demand for a commodity tends to raise the price. In other words, an increase of demand and an *increase* of price go together. Since these statements obviously contradict each other, the student does not know what to believe."

- (a) Explain the difficulty.
- (b) Draw a graph showing the difference between a change of demand (a “real change” of demand) and a change of quantity demanded (a “nominal change” of demand). Explain, indicating why the nominal change is not really a change of demand.
- (c) Discuss causes of changes of demand.

XI

SUPPLY AND DEMAND: SUPPLY

He who sells what isn't his'n
Must deliver the goods or go to prison.¹

The Meaning of Supply

THE "SUPPLY" of a commodity means the quantities which sellers stand ready to part with, in a given market, at a given time or in a given period of time, at all the prices of a series. "Stand ready" implies that the sellers have or can get what they offer for sale. Those who sell securities, grain, and so on, for future delivery must borrow the goods or buy them later to fulfill their contracts.

SUPPLY SCHEDULES

Supply refers to the quantities which sellers stand ready to part with at all the prices of a series. Thus it refers to a supply *schedule*. Such a schedule consists of alternative possibilities. That is, it indicates what the sellers would release at the lowest price of the series, or what the sellers would release at the next higher price, and so on.

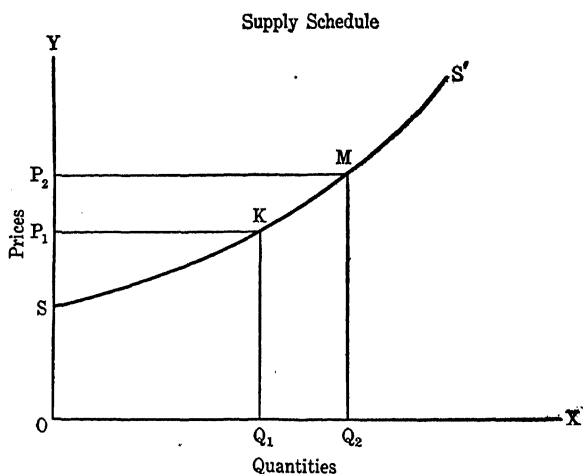
To illustrate, begin with a simple numerical example similar to that which was used to introduce the structure of demand. In a competitive wheat market five sellers stand ready to sell bushels of wheat as follows:

PRICES	SELLER F	SELLER G	SELLER H	SELLER I	SELLER J	ALL SELLERS
\$1.02	995	60	30	10	5	1,100
\$1.01	975	50	20	5	0	1,050
\$1.00	955	35	10	0	0	1,000
\$0.99	930	20	0	0	0	950
\$0.98	900	0	0	0	0	900

¹ Saying attributed to Daniel Drew, the famous speculator. As Charles Francis Adams and Henry Adams show us in their *Chapters of Erie*, Mr. Drew was a qualified authority on this subject. So expert was he at delivering goods which he did not have that he delivered to Vanderbilt a lot of Erie common stock which did not exist at the time of sale. Drew "delivered the goods" by turning convertible stock into the common stock which was required.

Each of the individual supply schedules consists of alternative possibilities. Seller F, for example, stands ready to sell 900 bushels at 98 cents, *or* 930 bushels at 99 cents, and so on. (He does *not* stand ready to sell 900 at 98 cents *and* 930 at 99 cents, and so on.) Now the market supply schedule is the sum of the individual supply schedules, showing what quantity all sellers together would sell at all prices. Like the individual supply schedule, therefore, it consists of alternative possibilities. Thus, all sellers together stand ready to part with 900 bushels at 98 cents, *or* 950 bushels at 99 cents, and so on. Notice that the quantity supplied is represented as varying *directly* with the price: the higher the price, the larger the quantity supplied. This is not true of all supply schedules, but, for reasons which vary from one supply situation to another, it is true of most supply schedules. The reasons will be considered as different supply situations are presented for discussion.

Where it is the more general principles of supply, rather than specific prices and quantities, supplied, which are the object of study, the supply schedule is best presented by means of a graph. Thus, the supply schedule



in the accompanying graph is SS' . As in the case of the graphic presentation of the demand schedule, prices are indicated along the vertical axis, OY , increasing in the direction of Y , and quantities are indicated along the horizontal axis, OX , increasing in the direction of X . Any given point in the supply schedule indicates two things: a supply price, and a quantity supplied. Thus, at the point S the price is OS and the quantity supplied is zero; at the point K the price is OP_1 and the quantity sup-

plied is OQ_1 ; at the point M the price is OP_2 and the quantity supplied is OQ_2 . Strictly speaking, of course, the term "quantity supplied," as related to a given price, means that the quantity in question *would be* supplied if the price in question became the actual price.

Supply Schedules and Supply Situations: "Short Run" and "Long Run"

The supply (that is, the supply schedule) of a commodity has been described as the quantities which sellers stand ready to sell, at a given time or in a given period of time, at all the prices of a series. It follows that the character of the supply schedule depends on what the "given time" or "given period of time" is. In other words, the same commodity has different supply schedules in different "periods": the terms offered by sellers differ from period to period. Nevertheless, it would be difficult to distinguish between periods purely on the basis of comparative time length, and for two reasons. First, the length of time required to effect a given change in the conditions of supply (the terms offered by sellers) differs from one commodity to another. For example, cost of production is slower to affect the supply schedule of wheat, which is seasonally produced, than it is to affect the supply schedule of shoes, which are, by comparison, continuously produced. Second, even in the case of one product there is nothing constant about the length of time required to bring given conditions of supply into operation. To illustrate, the tendency for the average cost of producing copper to rise with extensions of output took actual effect much more slowly in the 1920's than in the late 1930's and early 1940's, since military demands for copper caused a much more rapid expansion of output in the latter period. Accordingly, although we may think of a "period" as a length of time, realism requires us to face the fact that the important thing is *what happens* to the conditions of supply and *why* it happens. Thus different supply "periods" mean essentially different supply *situations* rather than clearly distinguishable lengths of time.

Below we distinguish four main supply situations. In a very general sense, the first to be discussed is the shortest, the next is longer, and so on, in order. But the distinctions are sharper from the point of view of what occurs than they are from the point of view of the time required for the occurrence. The occurrence is not only faster for some products than for others but is also subject to "change of pace" for any given product. Moreover, the situations overlap in time. The conditions of supply are termed, in order: (1) immediate supply (or "market" supply), (2) fixed supply, (3) supply where some productive agents are invariable, (4) supply where all productive agents are variable.

FIRST SITUATION: IMMEDIATE (OR "MARKET") SUPPLY

Take first a situation such as is best illustrated by what occurs in a space of a few minutes or less in a highly organized competitive market like the Chicago Board of Trade. A certain stock of a given commodity, say wheat, is at the disposal of the sellers. The supply schedule is determined by the attitudes of the sellers. The attitudes of the sellers, in turn, depend on such factors as the size of the existing stock, the perishableness of the commodity, the available storage space and its cost, the rate of interest on money tied up in the stock, the urgency of the need of sellers for immediate cash, and estimates of the speed and degree of change of future market conditions.

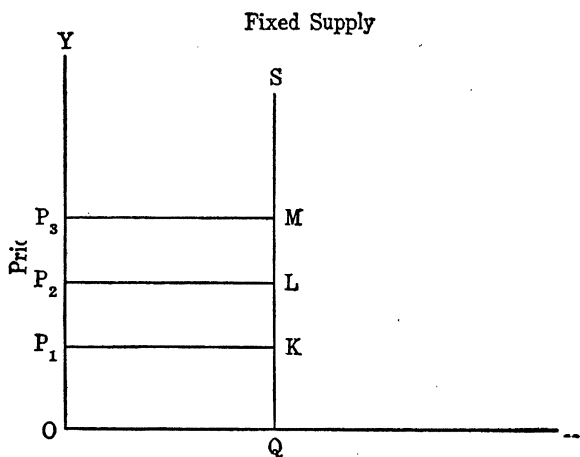
The quantity supplied varies directly with the supply price. Two general reasons account for this fact. First, each individual seller knows that his opinion of future market conditions is based, not on completely reliable knowledge, but on a judgment of more or less inadequate information. His opinion depends on an estimate from which uncertainty cannot be wholly eliminated. The higher the price, the smaller is the value of the chance of a further given rise of the price. Thus the individual seller stands ready to release more and more of his share of the existing stock at higher and higher prices. Second, various sellers differ in the degree of their confidence that the price will rise by any given amount—or not fall by a given amount, as the case may be. Thus the quantity supplied at each price in the supply schedule reflects different degrees of boldness or timidity from seller to seller. If, therefore, the existing stock of the commodity is large and the sellers are numerous, the variation of supply price and quantity supplied is highly continuous. The supply curve, like that which appears on page 166, is unbroken, smooth.

SECOND SITUATION: FIXED SUPPLY

Consider next a situation which, taken as a whole, causes the quantity supplied to be the same at all prices. Ideal cases are provided by antiques, rare coins, and the like. Here the quantity supplied has become independent of current production for all time, since production has been discontinued and is never to be resumed. Goods which go out of style before the existing stock is sold are in the same position. Reasonable approximations of this situation arise where commodities are produced seasonally or intermittently. In the case of farm crops, production is seasonal. Under some conditions, manufacture, too, is periodic. That is, the bulk of a given stock is produced in a certain period, and then there is a decided lull. This is true of goods such as Christmas toys, spring

clothing, and so on, which are seasonally consumed. It is true of many if not most manufactured goods as a depression comes on: producers stop adding much to existing stocks, and try to get rid of what they have on hand.

In such a situation the supply is fixed. Looking at the period as a whole, the quantity supplied is equal to the existing stock at all supply prices—the entire stock is for sale at whatever price the sellers can get. In the accompanying graph, to illustrate, the existing stock is OQ , and,



taking the period as a whole, the sellers stand ready to part with this quantity at any price from zero upward. As we shall see in the next chapter, the price tending to be established depends on the demand for the commodity.

In our first two situations, current cost of production does not determine the supply schedule. In the two situations which follow, however, current cost of production is the main determinant of supply: the cost schedule is roughly identical with the supply schedule. Before we turn to these situations, let us first be sure in what senses the terms “cost” and “cost schedule” are to be used.

COSTS AND COST SCHEDULES

First, the cost of any given product includes both the “explicit” costs and the “implicit” costs borne by producers. The producer bears explicit costs where he hires the use of productive power from somebody else—where he actually pays out rent, interest, and wages. The producer bears implicit costs where he uses his own productive power. Here he estimates

costs at the rates which he could get by selling the services of his productive agents: he includes in his costs the rent and interest and wages which he could get by selling the services of his land, his capital, and his labor, respectively, in the competitive market.

Second, a cost schedule shows how cost of production would be affected by *increasing* the output per unit of time. Thus, a commodity is produced at constant cost if increasing the daily output would not change the unit cost; it is produced at increasing cost if expanding the daily output would raise the unit cost; and it is produced at decreasing cost if expanding the daily output would lower the unit cost. It must be understood that the changes of unit cost represented by a cost schedule are only such changes as would be *caused* by an increase of output. To illustrate, a decrease of cost caused by an increase of output is a case of decreasing cost, but an increase of output caused by a decrease of cost is not a case of decreasing cost.

Third, the distinction which was made, in Chapter III, between *average* cost and *marginal* cost must be observed carefully. The difference between them is simply illustrated by the present numerical example. Assume that the actual output is 101 units. Then the average cost is \$1.01, or a total cost of \$102.01 divided by 101 units. The marginal cost, on the other hand, is \$2.01, or the difference between the total cost of 101 units and the total cost of 100 units. Where increasing the output would increase the total cost, as in our example, marginal cost may be

OUTPUT (UNITS)	TOTAL COST	AVERAGE COST	MARGINAL COST
100	\$100.00	\$1.00
101	\$102.01	\$1.01	\$2.01
102	\$104.04	\$1.02	\$2.03

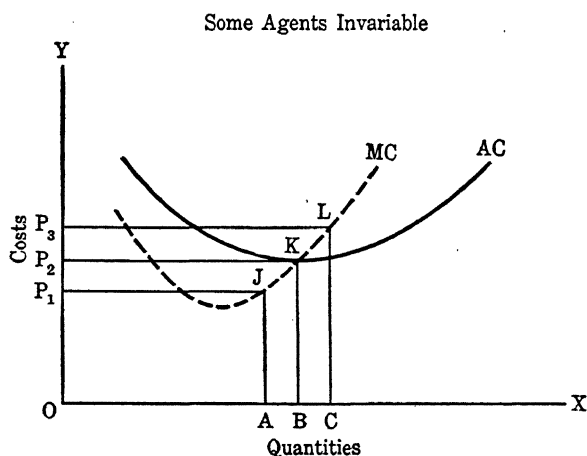
described conveniently as "The additional cost of the additional unit of output." Thus, the marginal cost of 101 units is the additional cost incurred by adding one unit to an output of 100 units. Now the producer, in deciding what output he should produce, acts reasonably in being guided by marginal cost rather than average cost. He seeks the maximum net revenue. His net revenue is equal to his total gross revenue less his total cost, and the change in his net revenue caused by expanding his output will be determined by the change in his total gross revenue and the change in his total cost. As far as cost is concerned, therefore, what he wants to know is, not what the average cost of the whole of an enlarged output would be, but what the cost of the *addition* to output would be.

Fourth, and what follows from the third proposition, the cost

schedule which tends to determine the supply schedule is the schedule of marginal cost. (It may also be the schedule of average cost, provided the situation is such as to make this schedule coincide with the schedule of marginal cost. As we shall see later, the same schedule is, under certain conditions, both the marginal cost schedule and the average cost schedule.) The cost schedule of an "industry" (all producers of a given commodity) is the sum of the marginal cost schedules of the "companies" (the individual producers) which make up the industry. (We use "company" in the broad sense which includes both the "plant," or such a technical unit as the factory, and the "firm," or such a business unit as the corporation. Consequently the company may operate more than one plant.) To illustrate the industry cost schedule, take the numerical example of supply schedules on page 165, change the heading of the first column from "Prices" to "Marginal Costs," and in the other columns change the headings "Seller" or "Sellers" to "Producer" or "Producers," respectively. In the case of the company the "short run" cost schedule typically differs from the "long run" cost schedule, and the same thing is true in the case of the industry.

THIRD SITUATION: SOME PRODUCTIVE AGENTS INVARIABLE: "SHORT RUN" COST

Our third situation relates to a period which is long enough to increase substantially certain agents used in producing a given commodity,



but which is not long enough to increase appreciably certain other agents used for the same purpose. To illustrate, America finds in the second great war, as she found in the first, that the increase of highly specialized

labor and complicated machinery is a time-consuming process. How is cost affected by extensions of output?

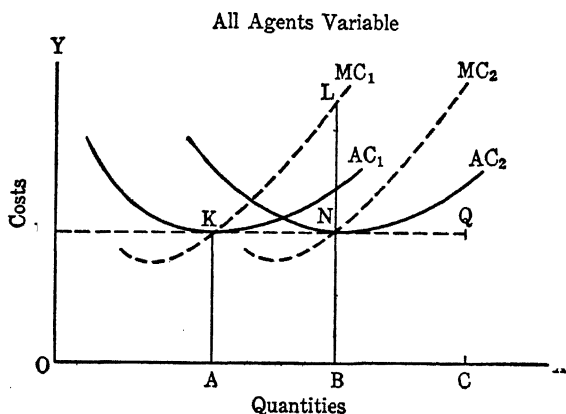
The answer has been given in Chapter III, which explains how, when increasing quantities of a variable agent are combined with a fixed quantity of another agent, nonproportional returns affect the average and marginal costs of a particular product. The effects of extensions of output on company marginal cost schedules are repeated on a large scale for the industry marginal cost schedule. Simplicity may be gained, without affecting the fundamental conclusions, by assuming that the industry is composed of homogeneous companies. The accompanying graph illustrates the situation for the industry. Quantities of output are measured along the OX axis, increasing toward X , and costs are measured along the OY axis, increasing toward Y . As the quantity of output is increased, changes of marginal cost are indicated by the schedule MC and changes of average cost by the schedule AC . Of various possible outputs, only one, OB , or the output of least average cost, makes marginal cost and average cost equal. For every smaller output marginal cost is below average cost, and for every larger output marginal cost is above average cost. As we have seen, the cost which counts as a determinant of output is marginal cost. Thus the cost schedule of our third situation, in which some productive agents are invariable, is illustrated by MC in the graph.

FOURTH SITUATION: ALL PRODUCTIVE AGENTS VARIABLE: "LONG RUN" COST

Our fourth situation relates to a period which is long enough to make variable the same productive agents which are invariable in our third situation. There is plenty of time to increase the amounts of such agents as highly specialized equipment and skilled labor. Consequently it is feasible, for any given output, to combine all agents in such a way that the output is produced at least average cost. This situation is conveniently described as consisting of two or more short periods like the one described in our third situation. As output continues to be increased, a given short run situation is supplanted by a second, the second by a third, and so on. For the present we assume that the output is expanded by increasing the number of companies in the industry and not by increasing the average size of companies. The effect on cost is illustrated by the following graph.

We begin with the average cost schedule AC_1 , the marginal cost schedule MC_1 , and the output OA . Both the average cost and the marginal cost are AK (OP): all agents are so combined that OA output is produced at the smallest possible cost, and, therefore, at the minimum

average cost. Next the output is increased to OB . How does this affect marginal cost? In the "short run" (some agents invariable) the marginal cost rises to BL . But in the "long run" (all agents variable) an increase of the agents which were invariable in the "short run" gives us the new average cost schedule AC_2 and the new marginal cost schedule MC_2 .



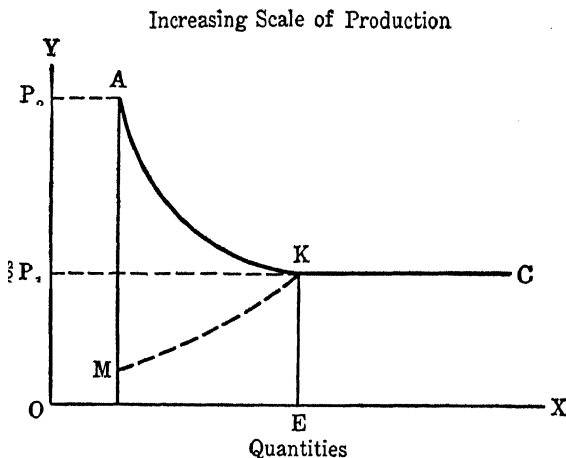
Consequently both average cost and marginal cost fall to OP (BN), where they formerly stood when the output was OA . In the "long run," therefore, the output is expanded at constant cost: the long run schedule of both average cost and marginal cost is the dotted line connecting the points K and N . If this process is repeated for outputs of OC and so on, the long run constant cost schedule is extended to point Q and beyond.

But this argument rests on the assumptions that the expansion of output causes no change in the technique of production and that all productive agents are equally variable. The next two sections of the discussion modify these assumptions.

LARGE SCALE PRODUCTION AND "DECREASING COST"

The *scale* of production in an industry refers to the typical size of "companies"—the typical size of "firms," and the typical size of "plants" operated by firms. The scale increases when the typical size of companies (firms, or plants, or both) increases. Now it is possible that the expansion of daily output by our industry will decrease average and marginal costs by increasing the scale of production. Thus, the larger company may be able to specialize more intensively than the smaller, to hire more expert management, to economize by selling and buying in larger lots. If we assume that this happens, we have the situation illustrated by

the present graph, from which short run cost schedules are omitted. By increasing the scale of production, the expansion of output beyond OD units decreases average cost until the output reaches OE . Beyond OE any further increase in the *scale* of production would increase average cost, and therefore the expansion of output beyond OE is brought about by



increasing the number of companies of the typical size used in producing OE output. The long run average cost schedule is AKC , and the long run marginal cost schedule is MKC . (From D to E , where the average cost schedule, AK , keeps flattening out, total cost is increasing at an increasing rate, with the result that the marginal cost schedule, MK , continues to rise. Beyond E , average cost is constant, so that average cost and marginal cost coincide.)

In general, however, a condition of decreasing cost occasioned by increases in the scale of production is rather improbable. In the first place, the scale of operations which will yield economies is decidedly limited. The chances are better, to be sure, in a new industry than in an old one. Henry Ford once sharply decreased the cost of small automobiles by introducing the line-assembly method of production, which required a large plant; but today little is to be gained by further increases in the size of the plant. It is possible, of course, that a single firm will prove to be the most economical in some industries. Within certain areas this seems to be the case with telephones, city power and light, and so on. Here the logical outcome is monopoly. But it is easy to exaggerate the advantages of sheer bulk. The giant runs into additional costs in the form of technical difficulties, red tape, inertia, and management which is inadequate to its huge task. During an investigation of

the sugar trust in 1911, evidence was presented to show that a refinery (plant) producing 7,500 barrels a day was at least as efficient as one producing 20,000 barrels.² In the 1934 edition of his *Financial Policy of Corporations*, A. S. Dewing reaches the conclusion that, on the whole, the earnings of industrial combinations (firms), such as the United States Steel Corporation, have fallen substantially below the former earnings of the constituent firms. Today less than half the steel works and rolling mills, and only about one-fifth of the plants in the cotton goods industry, employ as many as 500 workers. In the second place, even though economies might still be realized by extending the scale of production, it would seldom be necessary to increase the output of the industry in order to extend the *scale*. Ordinarily the scale could be increased by decreasing the number of companies (plants, or firms, or both) engaged in producing a given output. Here there would be no decrease of cost along a given cost schedule, since the fall of cost would not be *caused* by an increase of output. Instead, there would be a whole new cost schedule, lying wholly or in part below the old one.

COMPARATIVE VARIABILITY OF DIFFERENT AGENTS

Thus far we have assumed that all agents of production are equally variable in the long run. But on any useful interpretation of the term "long," this is not quite true of any industry, and of some industries it is far from being true. In any "run" which is not so long that the prediction of output-cost relationships is out of the question, the expansion of industry output tends to raise costs. Some agents of production do not expand readily. Unless it can draw freely on unemployed resources, as it usually cannot, the industry must shift resources from other industries. This always presents difficulties. To take an extreme case, the anthracite industry cannot acquire additional veins of coal by shifting them from other industries. In order to expand output, it must work given veins more intensively and resort to the use of inferior veins. To take a less extreme case, any continued increase in the amount of land used for wheat makes it necessary to shift from other crops land which, for purposes of wheat production, becomes progressively inferior as the process of shifting is continued. Manufacturing industries face a similar difficulty when they undertake to expand. It is found in our growing defense industries, for example, that suitable sites are limited, that much time is required to train additional workers properly for specialized tasks, and that shortages of aluminum and other materials develop. At the same time that the average physical productivity of its agents falls, the ex-

² See Eliot Jones, *The Trust Problem in the United States* (1924), pp. 109-10.

panding industry must pay for its additional agents what they are worth in other industries, to whose types of production they are better adapted. As long as the expansion of the industry output continues, therefore, the tendency is for average and marginal costs to rise.

"BULK LINE" COST: THE "REPRESENTATIVE FIRM"

The tendency of sellers to base their offers on costs of production works sluggishly and imperfectly. Costs always differ more or less from producer to producer. The reason is not simply that some producers have better land, better locations, and the like, than others. If this were all, the more fortunately situated producers would have correspondingly higher rents, for example, so that their costs would not be lower. But there are also differences of skill and luck in making changes. Some producers are slower than others to adopt improved methods, to find better locations. Competition gradually drives them out by forcing them to sell at a loss. But the process is slow. Some producers hang on, not making proper allowance for their implicit costs, selling at any price which a little more than covers their variable costs. By the time high-cost producers are displaced by methods which were formerly the best, still better methods have been adopted by the more alert or lucky producers, and the process of squeezing out continues.

The situation at any given time is substantially this: One part of the total industry output—say 10 per cent to 20 per cent, depending on the particular industry—is turned out by producers whose costs are abnormally low. Another part—say 10 to 20 per cent, again—comes from producers whose costs are abnormally high. In between is a group of "bulk line producers," or "representative firms," which produce most of the output at an average cost which does not differ much from one producer to another. The supply price of the industry output is about equal to the average cost of the bulk line producers. Therefore it is below the average costs of the high-cost producers and above the average costs of the low-cost producers. Does this make the supply price either substantially higher or substantially lower than the average cost of the whole output? It would be unsafe to dogmatize. The answer turns largely on the attitude which producers take toward uncertainty, and the degree of uncertainty depends on the instability, the rapidity of change, in the particular industry. These matters are discussed in Chapter XXVI.

Changes of Supply

The distinction between "supply" and "quantity supplied" is fundamental, because it is a distinction between cause and effect. A change of

supply tends to cause a change of price. A change of quantity supplied, on the other hand, is the effect of a change of price. A change of supply means a change of a supply schedule—a change from one supply schedule to another. By contrast, a change of quantity supplied means a change from one part of a given supply schedule to another part of the same schedule.

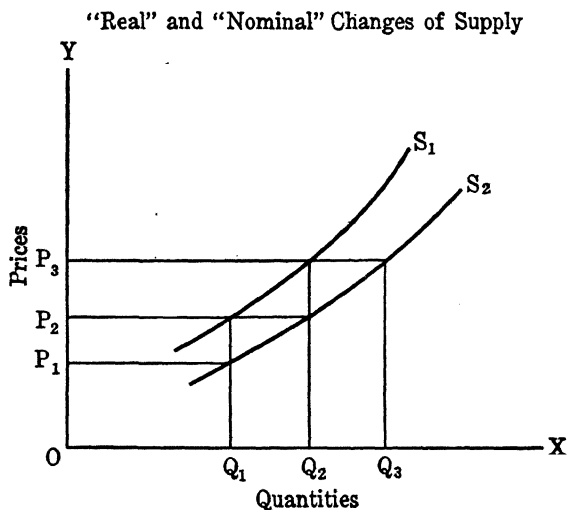
NATURE OF CHANGES OF SUPPLY

The nature of changes of supply can be illustrated simply by either numerical examples or graphs.

Take the following numerical illustration. The quantity supplied could be changed without any real change of supply. In schedule S_1 , for

"REAL" AND "NOMINAL" CHANGES OF SUPPLY		
Supply Prices (Dollars)	Quantities Supplied	
	S_1	S_2
5.00	500	600
4.00	400	500
3.00	300	400
2.00	200	300
1.00	100	200

example, the quantity supplied would be 100 units at \$1.00, or 200 at \$2.00, and so on. Suppose the actual price rises from \$1.00 to \$2.00. Then



the quantity supplied increases from 100 to 200 units. But this is not a real increase of supply. The sale of 100 additional units represents no change in the attitudes of the sellers. It indicates merely that the sellers actually release at \$2.00 the quantity which they were willing all along

to release at this price. Likewise a decrease of the actual price from \$2.00 to \$1.00 would cause a decrease of 100 units in the quantity supplied—a merely nominal decrease of supply, not a real change in the supply situation as a whole. But suppose there is a change from S_1 to S_2 . This is a real increase of supply. It means that the sellers are ready to release 100 units more than before at \$1.00, 100 more than before at \$2.00, and so on. To put the proposition differently, it means that the sellers are ready to release 500 units at a dollar less than before, 400 units at a dollar less than before, and so on. Likewise a change from S_2 to S_1 is a real decrease of supply.

In the preceding graph, the supply schedule S_1 indicates that OQ_1 units would be sold at a price of OP_2 , or OQ_2 units at a price of OP_3 , and so on. If the actual price rises from OP_2 to OP_3 , the quantity supplied increases by Q_1Q_2 units; but this is a nominal, not a real, increase of supply. If the actual price falls from OP_3 to OP_2 , the quantity supplied decreases by Q_1Q_2 units; but this is a nominal, not a real, decrease of supply. Now substitute schedule S_2 for schedule S_1 . This is a real increase of supply. At given prices, larger quantities are supplied than before; and given quantities are supplied at lower prices than before. To illustrate changes of quantity at given prices: at a price of OP_2 the quantity supplied is increased by Q_1Q_2 units, and at a price of OP_3 the quantity supplied is increased by Q_2Q_3 units. To illustrate change of price for given quantities: the price of OQ_1 quantity is decreased by P_1P_2 , and the price of OQ_2 quantity is decreased by P_2P_3 . By substituting schedule S_1 for schedule S_2 , we illustrate a real decrease of supply: given quantities are supplied at higher prices than before, and at given prices the quantities supplied are smaller than before.

CAUSES OF CHANGES OF SUPPLY

Among the causes of changes of supply schedules are changes in the *technique of production*. Before Whitney's invention of the cotton gin in 1793, a Negro slave, working by hand, had been able to clean the seed out of only about 5 or 6 pounds of cotton a day. With the new gin and the assistance of a mule, a slave could clean 300 pounds. Soon after the substitution of steam for mule power, the daily output rose to 500 times what it had been before the introduction of the gin, and it has been rising ever since. Changes like these, although not always so spectacular, have occurred in the production of wire nails, glass, cigarettes, steel and so on indefinitely.

Another cause is *speculative production* in anticipation of demand. Thus was the United States oversupplied with canals and railways. From

1825 to 1840, about 5,000 miles of canals were made, most of them either unnecessary from the first or soon to be rendered useless by the coming of the railway. During the World War, the reduction of the output of beet sugar in Europe increased the demand for cane sugar; and Cuban planters began an increase of acreage which continued, unfortunately, after the postwar recovery of the beet-sugar industry took place. In brisk times, manufacturers, being misled by the fact that middlemen buy rapidly in order to stock up, base their production on a much larger demand than they have sound reason to expect. During depression, exaggeration goes to the opposite extreme.

Monopoly is another cause. The original formation of a monopoly normally leads to restriction of supply. But sometimes the result in the long run is the contrary. The monopoly overreaches itself by driving the price up to the point where independent producers are invited into the field. This happened in the case of the American trusts once controlling the production of whiskey, glucose, wire nails, and sugar. During the 1920's it happened in the case of monopolistic controls over rubber, coffee, and nitrate. As a consequence of the British "Stevenson Plan" for the control of rubber prices, the output of rubber came to exceed consumption, at ruling prices, by 65,000 tons in 1926. Brazil's coffee "valorization" scheme was instrumental in increasing the acreage of coffee plantations by 28 per cent in Brazil, 25 per cent in Haiti, and 33 per cent in Columbia. So great became the output that in the summer of 1931 the National Coffee Department of Brazil began to get rid of coffee by having it burned or dumped into the ocean; and in the following three years some 4 billion pounds, or enough to last the world for 15 months, were destroyed. Roughly, the procedure is this. The monopoly holds stocks off the market, and keeps productive power out of use, thus raising the price. The high price presently brings forth independent production which forces the price down. As the price falls, producers desert the monopoly, stocks are dumped, idle capacity is also put to use, and the price decline becomes drastic.

"*Integration*" of industry, or joining various stages of production under one management, is also capable of causing a real increase of supply. This happened in the case of leather. Hides, leather, and shoes had been produced by separate groups. Later, both shoe manufacturers and packers went into tanning, thus increasing the total output of leather. The same thing happened to steel. Crude products and finished products had been produced by different managements. When the producers in each field began to invade the other field, the United States Steel Cor-

poration was formed partly for the purpose of preventing overproduction in both.

A major *war* causes particularly violent fluctuations of output. Of course the production of things especially needed for war is carried far beyond what will be required when peace is restored. But this is not all. Regions cut off from supplies develop sources of their own, and their output is added to the general supply when other regions resume operations after the war. During the World War, Russian competition in timber and oil was cut off, but it again became a factor in the world market during the 1920's. Wartime reduction of wheat output in Europe and Russia played a part in the extension of American and Canadian wheat farming, thus contributing to a wheat surplus as farming began to return to prewar conditions abroad. The coal fields of northern France being cut off by the German invasion, France turned to Britain for coal, with the result that the British coal industry was found to be overexpanded after the War. In similar fashion was the production of cigarettes, textiles, and flour expanded in the Orient during the War. The War of 1939 can hardly fail to create similar problems. For example, what is to be the postwar fate of the enormously expanded aviation industry?

PROBLEMS

1. Construct a table showing how a market supply schedule is related to the supply schedules of individual sellers in the market. (a) Explain and illustrate the proposition that your market supply schedule consists of alternative possibilities. (b) Distinguish carefully between "supply" and "quantity supplied." (c) Illustrate a supply schedule by means of a graph. In what sense does the graph excel the arithmetical illustration?

2. In the present problem you are to discuss the character of the supply schedule of a commodity in different situations. Pick some agricultural or manufactured product and proceed as follows:

(a) Graph and explain the supply schedule for a very short period, such as a few minutes or a day. Does cost of production explain the character of the schedule? If not, what does? Does it make any essential difference whether the commodity is agricultural or industrial?

(b) Explain a situation in which there would be a fixed supply. Do the possible causes of the situation, and the length of the time period to which the situation pertains, depend on the character of the commodity? For example, what difference does it make whether the commodity is wheat, oranges, women's hats, or automobiles? Does cost of production explain the character of the schedule? Draw and explain a graph of the supply schedule.

(c) Take a situation in which the daily output of the commodity is expanded by substantially increasing some productive agents without appreciably increasing others. Explain and illustrate relative changes in the quantities of different agents. Explain the meaning of cost of production.

Graph and explain the cost schedule. Explain the connection between cost and supply.

(d) Take a situation in which the daily output of the commodity is expanded by substantially increasing all productive agents. Graph and explain the cost schedule, and indicate the connection between cost and supply. How do the time period and the cost schedule in this situation differ from the time period and the cost schedule of the situation in (c)?

(e) Graph and explain, first, a short-run case of increasing cost, and, second, a long-run case of increasing cost.

3. Discuss the following proposition: "As a rule, increasing the output of a commodity would cause decreasing average cost, since it would not only reduce overhead cost but also increase the scale of production."

4. Discuss the relations between average cost and marginal cost:

(a) Where a commodity is assumed to be produced at constant average cost;

(b) Where the production of a commodity is subject to increasing average cost because the quantities of some productive agents are highly invariable;

(c) Where the production of a commodity is subject to increasing average cost because the average quality of some productive agents declines, for purposes of producing the commodity in question, as the output expands.

5. "Economists tell us that an increase in the price of a commodity would increase the supply. In other words, an increase of supply and an *increase* of price go together. But they also tell us that an increase of supply tends to depress the price of a commodity. In other words, an increase of supply and a *decrease* of price go together. Since these statements contradict each other, the student does not know what to believe."

(a) Explain the difficulty.

(b) Draw and explain a graph showing the difference between a real and a nominal change of "supply."

(c) Discuss causes of changes of supply.

XII

PRICES UNDER COMPETITION: "MARKET" AND "NORMAL" PRICES

For example, ever since Smith and Mill laid down the principles of their science the law of supply and demand has stood as an axiom. When demand rose, prices rose; when supply rose, prices fell. But now—well, a recent advertisement of a very popular car tells the story. "Owing to the unprecedented demand for our four-door sedan," it reads, "we have been able to reduce the price." . . . What does it all mean—this and a dozen other contradictions of old-fashioned, accepted economic principles? ¹

THE OBJECT of this chapter and the next is to describe how supply and demand determine prices under conditions of competition. The competition is not supposed to be so "perfect" that productive power of all kinds could move instantly to any field where its productivity would be a little higher. On the contrary, the comparatively sluggish movement of some agents of production is taken into account. For the present, it is assumed only that competition is free from the restraints which are characteristic of monopoly. Thus, with respect to any given commodity, it is assumed that many buyers are rivals and that many sellers are rivals. Although we deal primarily with the prices and outputs of *individual* commodities, attention is directed also to the character of the whole *system* of prices and outputs.

The Principle of Supply and Demand

As the quotation at the head of the present chapter indicates, it is sometimes asserted that "the law of supply and demand" is too old-fashioned to hold in a modern world which is filled with inventions, wars, legislative changes, and the like. When this is asserted, however, it is the principle of supply and demand, rather than the modern world,

¹ Will Irwin, *Herbert Hoover*. New York: D. Appleton-Century Company, 1928, pp. 292-93.

which is the chief victim of misinterpretation. Although much remains to be said about the effects of supply and demand on prices under various circumstances, the general principle of supply and demand may be simply stated as follows: *A given demand and a given supply tend to make the price of a given commodity such that the quantity demanded and the quantity supplied are equal.*

To illustrate, take the demand and supply given in the following table. Quantity demanded varies inversely with price: buyers stand ready

EQUILIBRIUM OF SUPPLY AND DEMAND		
Demand (Units)	Prices (Dollars)	Supply (Units)
1	.09	9
2	.08	8
3	.07	7
4	.06	6
5	.05	5
6	.04	4
7	.03	3
8	.02	2
9	.01	1

to take 1 unit at 9 cents, or 2 units at 8 cents, and so on. Quantity supplied varies directly with price: sellers stand ready to part with 1 unit at 1 cent, or 2 units at 2 cents, and so on. Remembering that it takes both buyers and sellers to make a trade, it will be seen that no price except 5 cents can prevail. At any higher or lower price, forces are set in motion which tend to make the price 5 cents. At 6 cents, sellers can dispose of only 4 units, because this is all that the buyers will take. Rather than have some of their goods left on their hands, sellers willing to take 5 cents or less will offer their goods at 5 cents or less, and the price will fall. As it falls, quantity demanded will increase and quantity supplied will decrease until, when a price of 5 cents is reached, the two quantities will be equal. At 4 cents, on the other hand, buyers can get only 4 units, for this is all that the sellers will release. Rather than get only 4 units, buyers willing to pay 5 cents or more will offer 5 cents or more, and the price will rise. As the price rises, quantity demanded will decrease and quantity supplied will increase, until, when the price reaches 5 cents, the two quantities will be equal. Under the existing conditions of supply and demand the equilibrium price is 5 cents.

As we go along we shall see that *any* given conditions of supply and demand—short-run or long-run, competitive or monopolistic—tend to establish an equilibrium price at which quantity demanded and quantity supplied are equal.

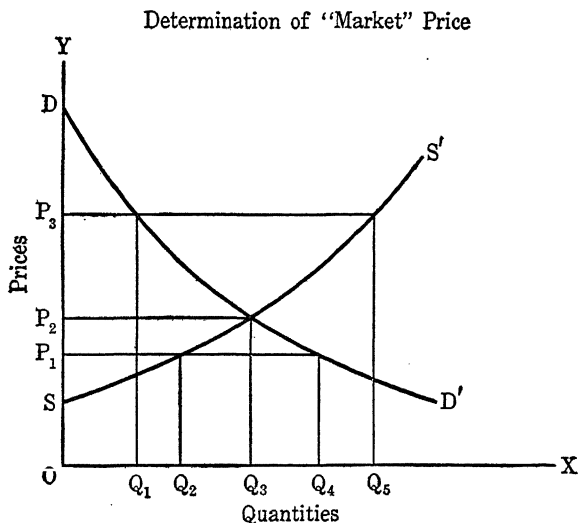
Immediate, or "Market," Prices

We consider first the operation of competitive supply and demand within a very short period of time. Many sellers are competing for sales and many buyers are competing for purchases. Demand and supply conditions in this situation are *based* on estimates. Everyone makes at least a crude estimate of numerous factors capable of affecting the price of the commodity. Among these factors are the size of the stock, the perishableness of the commodity, storage space for the commodity, the cost of storage space, the interest cost of funds invested in the commodity, the size and personal distribution of the economy's income, the pattern of desires for different commodities. In estimating these factors, both the present and the future are taken into account. The accuracy of the estimate depends on information and judgment, and the reaction to the estimate depends on the temperament and economic circumstances of the judge. What chiefly counts in the "market" situation, however, is not the *basis* of the estimates but the fact that there is a wide variety of estimates and attitudes toward estimates. The tendency of the individual to wait for the establishment of a given price, which he predicts, becomes weaker the more closely this price is approached by the actual market price. Also estimates and reactions to estimates differ from buyer to buyer and from seller to seller. Thus, in any large market, we have a great variety of attitudes among both buyers and sellers. As Mark Twain observed, it is differences of opinion which make horse races; and it is differences of "opinion," in the broad sense, which make market supply and demand schedules. The result is that quantity demanded varies inversely with price, that quantity supplied varies directly with price, and that the variation of quantity with price is highly continuous in both cases.

DETERMINATION OF MARKET PRICE

The determination of price in this "market," or "immediate," situation is illustrated by the following graph. The supply schedule is SS' and the demand schedule is DD' . The quantity supplied would be zero at a price of OS , or OQ_2 at a price of OP_1 , or OQ_3 at a price of OP_2 , or OQ_5 at a price of OP_3 . The quantity demanded would be zero at a price of OD , or OQ_1 at a price of OP_3 , or OQ_3 at a price of OP_2 , or OQ_4 at a price of OP_1 . The equilibrium price is OP_2 , since at this price quantity demanded and quantity supplied are equal, both being OQ_3 . No other price can prevail. This may be demonstrated as in the foregoing numerical illustration. Or the demonstration may be varied as

follows. Take first a higher price, OP_3 . Since the quantity supplied is OQ_5 , and since the buyers will not pay so much as OP_3 for this quantity, the price must fall. As the price falls, the quantity supplied decreases and the quantity demanded increases until, when the price reaches OP_2 , these



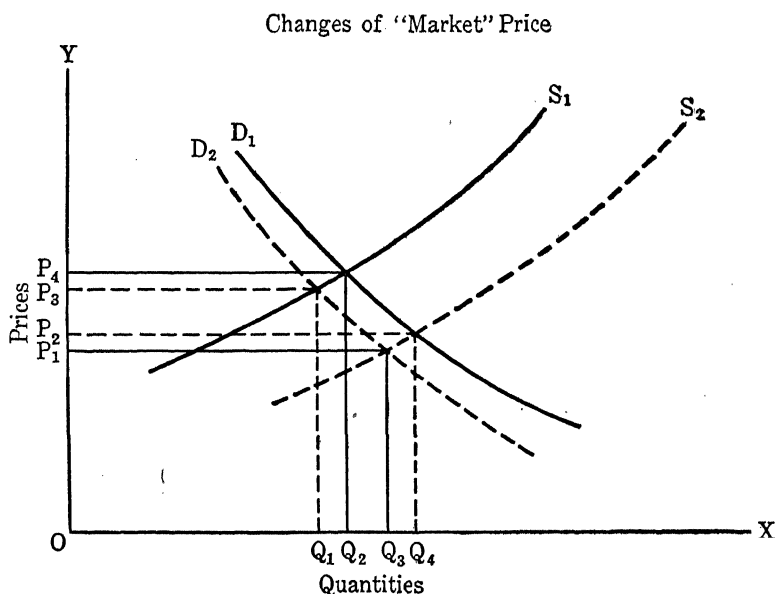
two quantities are equal. Take next a lower price, OP_1 . Since the quantity supplied is only OQ_2 , and since the buyers will pay more than OP_1 for this quantity, the price rises. As the price rises, the quantity supplied increases and the quantity demanded decreases until, when the price reaches OP_2 , these two quantities are equal.

CHANGES OF MARKET PRICE

Since our market price is established by given conditions of supply and demand, the substitution of new conditions gives rise to a new market price. In such markets as the New York Stock Exchange and the Chicago Board of Trade this substitution is rapid: The market price typically changes every few minutes, and it may even change several times within a minute. This means that the "opinions" of buyers and sellers change, and that the respective changes on the two sides are not such that each completely nullifies the other's effect on the price. In the market price situation, the change on one side is likely to influence the price in the same direction as does the change on the other side. That is to say, increases of demand and decreases of supply tend to go together, and decreases of demand and increases of supply tend to go together. The reason is that the general information concerning factors capable of

changing the price is about equally accessible to both sides. To illustrate: A given government report indicates a larger crop of wheat than had been generally expected. The result is that sellers become more eager to sell at the same time that buyers become less eager to buy. In other words, the supply increases and the demand decreases.

Such a situation is illustrated by the following graph. At first the given demand is D_1 and the given supply is S_1 , making the equilibrium



price OP_4 and the equilibrium quantity OQ_2 . Next, supply increases to such an extent that the given supply becomes S_2 , and demand decreases to such an extent that the given demand becomes D_2 . (Here realism is sacrificed to clarity by representing the increase of supply as being much greater than the decrease of demand.) Accordingly, the equilibrium price becomes OP_1 and the equilibrium quantity becomes OQ_3 . By beginning with S_2 and D_2 and changing to S_1 and D_1 , respectively, we of course combine a decrease of supply with an increase of demand. Or the graph can be used to illustrate other combinations, such as a change on one side without a change on the other, or such simultaneous changes of supply and demand as tend to prevent a change of the market price.

"NORMAL PRICES"

In a competitive market, to repeat, the market price of a commodity changes frequently. But it does not fluctuate simply at random, moving

hither and thither in a quite unpredictable fashion. Its successive locations are not like the destinations of bullets fired aimlessly into the air. They are more like the points of contact of bullets aimed at a target. The successive shots cluster around the bull's eye, although no two strike exactly the same point or miss the dead center of the bull's eye by precisely the same distance. Likewise the successive market prices of a commodity cluster around a "norm." The norm around which they cluster is called the "normal price." This norm need not be the same as any actual market price, any more than the dead center of the bull's eye need be the destination of any actual shot. Rather, it is the price *toward* which actual market prices are being drawn.

Where any given commodity is concerned, the situation, or "period," in which normal price is determined covers much more time than does the situation in which market price is determined. The market price situation assumes a given demand and a given supply, while a normal price situation envisages numerous changes in market supply and market demand. Purely for purposes of illustration, suppose that the market price period is one hour long. Then each hour has its own given supply and given demand, and, therefore, its own market price. But from hour to hour the market price fluctuates with fluctuations of market supply and market demand. Now, *why* is there a norm around which the fluctuations occur? In the case of the cluster of shots around the bull's eye, the answer is simple. Here we have certain *underlying conditions*, the chief of which is the intention of the marksman, while others are the skill of the marksman, the quality of the gun, the quality of the ammunition, and the adjustment of the sights. But the answer is not much more difficult in the case of the cluster of market prices about a norm. Here, too, there are certain *underlying conditions* which account for a norm. There are, in short, certain underlying conditions of supply and demand which are always tending to assert themselves—which buyers and sellers are always estimating in the market situation.

On the demand side, the people of the economy have a certain amount of income to allocate to the purchase of different commodities. The allocation depends on such conditions as the size of the total income, the personal distribution of income, and diminishing marginal utility as affected by the prevailing pattern of personal tastes. On the supply side, there is either a given stock of the commodity, if the commodity is not being currently produced, or given conditions determining the average cost of production. In any situation where these underlying conditions of supply and demand are stable, there is a normal demand schedule and a normal supply schedule, and, therefore, a normal price. Market price

is under the influence of normal price because market supply and demand conditions are under the influence—under the “gravitational pull,” as it were—of normal supply and demand conditions.

The Determination of Normal Price

The underlying conditions which account for a normal price differ from situation to situation. Take wheat as an illustration. Between harvesting seasons, the supply is essentially fixed, or equal to the existing stock, in a region which is not importing wheat. In a period of two or three years, the annual output can be expanded by farming given wheat land more intensively and by transferring land from other crops to wheat. In such a situation, wheat is an increasing-cost good. Now, the normal price in the first of these situations is not likely to be the same as the normal price in the second situation. Using the same demand schedule in both cases, the normal price is probably lower in the second situation than in the first. This is because we are assuming an increase of output in the second case, and the incentive for increasing the output must be that the normal price exceeds average cost of production before the expansion of output takes place.

Now, how do differences of underlying conditions affect the *determination* of normal price? That is, how do they affect the respective parts played by normal demand and normal supply? For example, is normal price determined predominantly by normal demand in one situation and predominantly by normal supply in another situation? The answer depends on just what it is that is being determined. In the determination of any *given* normal price, normal demand and normal supply are equally responsible for the result, regardless of the situation. In the determination of a *change* of normal price, however, the conclusion is not the same. Here the respective parts played by normal demand and normal supply depend on the respective characteristics of the normal demand schedule and the normal supply schedule. Let us illustrate.

DETERMINATION OF A GIVEN NORMAL PRICE

As far as the determination of any given normal price is concerned, all that counts is the location of the point at which the normal demand schedule and the normal supply schedule intersect. Suppose the point is such that the equilibrium price is \$1.00 and the equilibrium quantity is 1,000 units. Above and below this point, and to right and to left of it, the characteristics of the demand and supply schedules make no difference. Indicate the point in question on a graph. Draw through this point a fixed-supply schedule, a constant-cost schedule, a decreasing-cost schedule,

and an increasing-cost schedule. Draw through it also a demand schedule of unit elasticity, an elastic-demand schedule, and an inelastic-demand schedule. Call the combination of a supply schedule with a demand schedule a "pair." Then any pair whatever yields precisely the same result as any other pair whatever, despite the fact that no two pairs represent the same normal price situation. The normal supply schedule and the normal demand schedule are equally responsible for the normal price, regardless of the type of each. The type of the supply schedule would make a difference *if* the demand schedule changed, and the type of the demand schedule would make a difference *if* the supply schedule changed. But there is only one normal demand schedule and one normal supply schedule. To have more than one of either is to have more than one normal price situation.

If all we wish to consider is the determination of the norm around which market prices fluctuate in a *given* normal price situation, normal price is determined equally by supply and demand. But obviously this is not all we wish to consider. The market prices of a commodity do not continue, year in and year out, to fluctuate around the same norm. On the contrary, the norm itself *changes* with changes in the underlying conditions of supply and demand. And changes of the norm are not determined equally by supply and demand, as a rule.

DETERMINATION OF CHANGES IN NORMAL PRICE

When normal demand changes, the type of the normal supply schedule makes a difference. To illustrate with a graph, begin by drawing through a given point a fixed-supply schedule, a constant-cost schedule, and a demand schedule of about unit elasticity. Now, leaving the supply schedules unchanged, indicate an increase of demand by drawing a second demand schedule above the first. In the fixed-supply situation the increase of demand raises the price without changing the quantity supplied. In the constant-cost situation, on the other hand, the increase of demand increases the quantity supplied without changing the price.

When normal supply changes, the type of the normal demand schedule makes a difference. To illustrate with a graph, begin by drawing through a given point an inelastic-demand schedule, an elastic-demand schedule, and an increasing-cost schedule. Now, leaving the demand schedules unchanged, indicate an increase of supply by drawing a second increasing-cost schedule below the first. In the inelastic-demand situation the increase of supply causes a greater decrease of price and a smaller increase of quantity than it does in the elastic-demand situation.

In the following three main sections, we deal with the consequences,

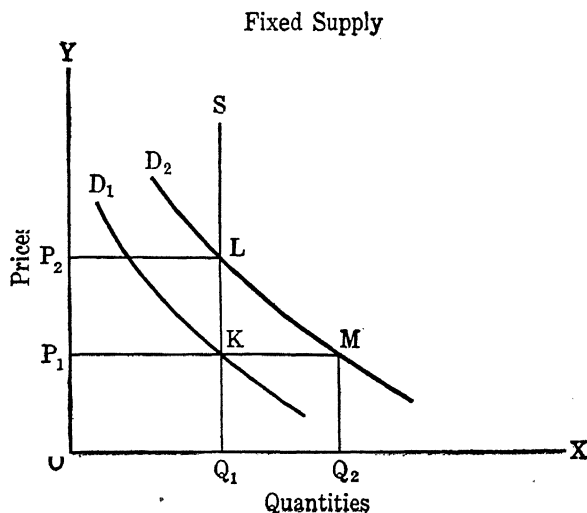
first, of changes of normal demand, second, of changes of normal supply, and, third, of changes of both normal demand and normal supply.

Changes of Normal Price: Demand Changes

For the present, we have to do with the results of changes of normal demand in different normal supply situations. Taking any given normal supply situation, the result depends on the character of the normal supply schedule. But of course the character of this schedule differs from one normal supply situation to another. In one situation, the commodity is not producible, and the supply is fixed. In another situation the commodity is producible, but changes of output must be effected mainly by changing the amount of "working capital." In still another situation, the commodity is producible, and changes of output can be effected by changing substantially not only the amount of the "working capital" but also the amount of the "fixed capital." The normal supply schedules of producible goods marketed under competitive conditions are hereafter identified with normal cost schedules. Any cost schedule, it should be remembered, indicates how cost (marginal or average, depending on the situation) would be affected by *increasing the output per unit of time*. Taking one day as the time unit, it shows how cost would be changed by given increases of daily output.

FIXED SUPPLY

A change in the normal price of a fixed-supply good—antique chairs, shoes which have gone out of style, wheat between harvesting seasons, a manufactured article whose production has been stopped by a depression, and the like—is illustrated by the following graph. From the standpoint of a given period taken as a whole, the entire stock is for sale for whatever it will bring. The quantity supplied is the same at all prices, as indicated by the vertical supply schedule, Q_1S . We begin with the demand schedule D_1 . As long as the underlying conditions are such that the given demand is D_1 (the demand with which market demand is always tending to conform), the normal price is OP_1 . Next the underlying conditions—the factors determining the total income of the economy and the allocation of this income to the purchase of different commodities—change in such a way that the demand for the given commodity rises to D_2 . Buyers now stand ready to pay P_1P_2 more than before for the quantity OQ_1 , and, if they could get it, they would take Q_1Q_2 more than before at a price of OP_1 . The normal price rises from OP_1 to OP_2 . The increase of the price is determined solely by the increase of demand, being precisely the same as the increase of demand for OQ_1 quantity.



FIXED-SUPPLY INCOME BEARERS

For fixed-supply consumption goods the demand is direct. But the demand is indirect for fixed-supply goods which are wanted, not for consumption, but for the income which they yield. Fairly close approximations to fixed supply are found in such income bearers as city sites, long-term bonds of a given issue, and, under certain circumstances, highly durable goods like buildings and ships.

To illustrate the determination of normal price, take a plot of land which is expected to yield annually a net rent of \$100. What is it worth as an investment? A logical investor would answer: "It would be worth to me the sum of money which I should have to lend at interest in order to get \$100 of income a year." The size of this sum depends, of course, on the rate of interest which our investor can secure. Assume for the time being that he can lend at 5 per cent a year. To find the value of the plot, then, he "capitalizes" the \$100 annual rent at 5 per cent. That is, he divides \$100 by .05. The result is a capital value of \$2,000. This is the same thing as saying that the present value of all the future annual incomes, each being *discounted* at the rate of 5 per cent, is \$2,000. Thus, the first annual income of \$100 is due a year from today; the second, two years from today, and so on. The first one is now worth $\frac{\$100}{1.05}$ or about \$95.24. That is, today the investor would have to lend about \$95.24 at 5 per cent in order to get \$100 a year from today. Similarly, the second annual

income is now worth the sum which, accumulating at 5 per cent a year, would come to \$100 two years from today; and so on. Thus the present value of all the future annual incomes is \$95.24, plus \$90.70, plus \$86.38, and so on—a series whose value approaches \$2,000 as a limit. The demand for the plot is \$2,000.

Next suppose that, the annual net rent remaining \$100, the available rate of interest changes. In that event, the demand for the plot changes correspondingly. To illustrate, assume that the interest rate falls to 4 per cent. Then the present value of all the future annual incomes changes to \$96.15, plus \$92.46, plus \$88.90, and so on—a series whose value approaches \$2,500 as a limit. The normal demand and the normal price rise from \$2,000 to \$2,500. The cause of the change in the normal price is purely the change of demand, since the two changes are equal.

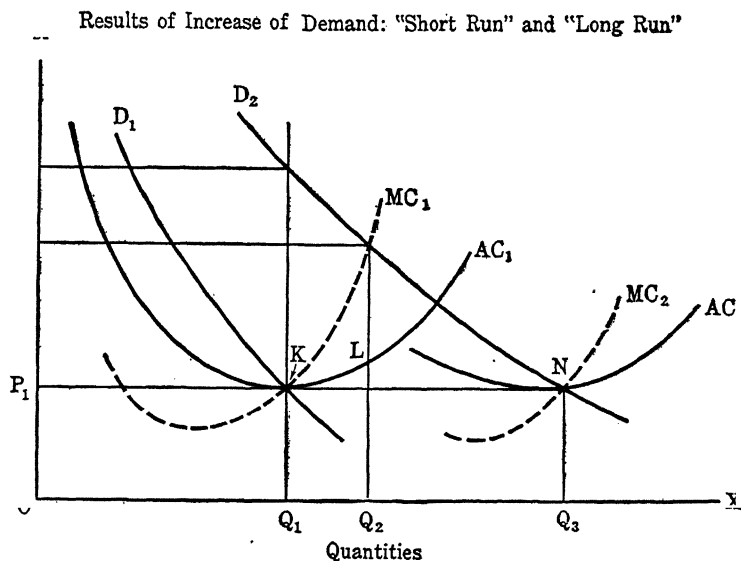
Now, as a bridge from fixed-supply goods to producible goods, take the following problem. The X steamship company owns a ship which yields a net income of \$20,000 a year. The market rate on loans is 5 per cent. The Y steamship company wants to buy the ship. About how much will the Y company probably have to pay? Suppose you divide \$20,000 by .05, getting \$400,000 as your answer. You may be right. On the other hand, your solution may be like Gilbert and Sullivan's famous "flowers that bloom in the spring," having nothing to do with the case. It all depends on the situation. You are right if the buyer is in such a hurry that, for his purposes, ships like this are not producible. Such was the case during the great war of 1914. Endless cargoes of food, munitions, and raw materials had to be brought to Europe from all over the world. The burden fell mainly on the British merchant marine. Ships changed hands at fantastic prices. In 1917 Alfred Holt's paid £600,000 for four old ships which the seller, the Knight Steamship Company, carried on the books at £80,000. The price of ships increased fivefold on the average.² In this situation, the supply was not much affected by current production, ships were essentially fixed-supply income bearers, and changes of price were determined by changes of demand. Your answer is wrong, however, if the Y company can afford to wait while it has a similar ship produced for, say \$100,000.³ In that case ships are producible and normal price is affected by the character of the normal cost schedule.

² C. E. Fayle, *The War and the Shipping Industry* (1927), p. 180.

³ However, the value will continue to be higher than current cost of production until production increases the number of ships enough to bring the capitalized value down to the level of cost. Thus, the value of durable goods is determined by demand in the "short run," and is equal to cost only in the "long run."

PRODUCIBLE GOODS: "SHORT RUN" AND "LONG RUN"

As we saw in Chapter XI, the character of the cost schedule of any producible good depends on the situation. Let us take the case of a manufactured article which is assumed to be consumed as rapidly as it is produced. Thus, daily consumption equals daily production, so that production does not cause an accumulation of stock. The following graph, which relates to an industry composed of homogeneous com-



panies, illustrates three possible normal price situations. We begin with a normal demand of D_1 and a normal daily output of OQ_1 . The respective amounts of fixed and working capital are such that the average cost of this output is OP_1 . The normal price is OP_1 . The average cost schedule is AC_1 and the marginal cost schedule is MC_1 , marginal cost and average cost being equal for OQ_1 output. But now the normal demand suddenly rises to D_2 . The effect on normal output and normal price differs from one situation to another.

Take first a "very short" period of time. It may be a week. That depends on the particular commodity. At any rate, it is assumed to be so short that neither the working capital nor the fixed capital used by the industry can be increased appreciably. Then the daily output remains OQ_1 , and the normal price—if it is fair to term "normal" the price tending to be established in such a short period—rises to OP_3 .

Take next a period which is not so "short." Call it a month, although the length depends on the character of the commodity. It is longer than the first period in the sense that daily output can be increased by increasing the amount of working capital. It is still too short, however, to permit any appreciable increase in the amount of the fixed capital—the more highly specialized agents used in producing the commodity. As output is expanded, the combination of increasing amounts of some agents with fixed amounts of others causes diminishing returns. Accordingly each increase of output occasions a rise of average cost and a still greater rise of marginal cost. In this situation the output is expanded until the quantity is such that demand price and marginal cost are equal. (Each of the homogeneous companies expands its output until its marginal cost equals its marginal revenue. Since the demand schedule for its output is, as we saw in Chapter X, perfectly elastic, its marginal revenue equals its average revenue. This average and marginal revenue exceeds marginal cost until the expansion of the output of the industry brings the demand price of the industry output down to equality with the rising marginal cost of the company.) Thus the normal output is OQ_2 and the normal price is OP_2 .

Take finally a "long run" period. It is "long" in the sense that the daily output can be expanded by increasing not only the working capital but also the capital which was fixed in the immediately foregoing situation. This is done by increasing the number of companies in the industry. Additional companies are attracted by the fact that the price, OP_2 , exceeds the average cost, Q_2L . They continue to enter the field and enlarge the output until the price and the average cost are equal. Their entry reestablishes the proportions between productive agents which existed when the output was OQ_1 , thus lowering average cost to OP_1 . Under these circumstances the normal output is OQ_3 and the normal price is OP_1 . The short run average cost schedule AC_2 is substituted for AC_1 , and the short run marginal cost schedule MC_2 is substituted for MC_1 . Long run average and marginal cost are indicated by the line KLN .

In practice, of course, the situations are not so distinct as they are in our illustration. We do not have, first, *no* increase of output, second, *no* increase of certain agents, and, third, equal variability of *all* agents. Instead, the tendency is for the output and the quantities of all agents to increase from the beginning, with some agents expanding more readily than others. Further, the special difficulties of expanding some agents are likely to prove so persistent that the costs of these agents in the industry will rise, thus causing the long run trend of average cost to be upward.

DEMAND CHANGES AND ECONOMIC EQUILIBRIUM

Changes of normal demand change the economic equilibrium—the proportions between different products. In doing so they cause more or less hardship. Generally speaking, a sharp increase in the demand for a given product causes less hardship than would an equally sharp decrease in the demand for the same product. When the demand for a particular product increases, the rule is that the additional money spent for the one product is deducted from total expenditures on many other products, so that there is not much decrease in the sales of any other single product. When, on the other hand, the demand for a particular product decreases, the rule is that many products take purchasing power away from the one, and the loss of the victim is correspondingly greater than the gain of any single beneficiary. The task of readjustment is more difficult in the latter case. *Total* suffering is greater when one industry must reduce its output a great deal than when each of many industries must reduce its output a little. The point may be illustrated by the rise and fall of miniature golf. During the rise the money spent on the fad was shifted from so many other things that nobody was hurt much, while during the fall the investors in miniature golf and its accessories were hurt badly.

Sometimes, of course, a single industry suffers seriously from an increase in demand for the product of another industry. No doubt the demand for phonographs was hard hit by the growth of the demand for radios, and doubtless the decrease of the demand for carriages was caused primarily by the increasing popularity of automobiles. As a rule, however, specific increases of demand cause little disturbance and specific decreases of demand cause much. The increases of demand occasioned by war do not fall within this rule, since they cover a wide range of products simultaneously.

So far, we have considered the reaction of normal price and output to changes of normal demand. In the next chapter we deal with the reaction of normal price and output, first, to changes of normal supply, and, second, to changes of both normal demand and normal supply.

PROBLEMS

1. "The market for wheat opened with a given demand and a given supply which made the bushel price \$1.00. A little later the demand increased sharply, driving the price up to \$1.03. However, the rise of the price increased the supply and decreased the demand, with the result that the price speedily returned to \$1.00.

Using a graph for purposes of illustration, discuss this whole statement, indicating wherein it is sound, and wherein unsound, and why.

2. "As every practical business man knows, conditions in the real world are frequently just the opposite of those which are pictured by the academic economist in his famous law of supply and demand. The economist says that the price of a commodity must rise if the demand increases and must fall if the demand decreases. But the businessman knows from experience that an increase of demand can cause a decrease of price, and that a decrease of demand can cause an increase of price. The economist says that the price must fall if the supply increases and must rise if the supply decreases. But the businessman knows from experience that an increase of supply can cause the price to rise and that a decrease of supply can cause the price to fall."

(a) State and explain the academic economist's principle of supply and demand.

(b) Carefully discuss each of the alleged contradictions of this principle appearing in the foregoing quotation.

3. Explain the difference between "market" (or "immediate") price and "normal" price. Do you infer that the normal price of a commodity, during a given period, is the average of the successive market prices? Explain.

4. Discuss this statement carefully: "Like a market price, a normal price is determined by supply and demand; but the determination of demand is different in the two cases, and so is the determination of supply."

5. "If normal demand and normal supply never changed, it would be correct to state that supply and demand are equally responsible for normal price. When normal price changes, however, supply and demand seldom play equal parts in determining the extent of the change."

Discuss this statement carefully.

6. (a) Here are two plots of land. The net annual rent of the first is \$100; of the second, \$200. What tend to be the respective values of the two plots if the prevailing rate of interest is 5 per cent? If this rate is 4 per cent? Explain.

(b) Here are two automobiles, one a new Chevrolet, the other a new Buick, both operated as taxis. The Chevrolet yields a net annual income of \$150, while the net annual income from the Buick is \$250. Assuming the prevailing rate of interest to be 4 per cent, what tend to be the respective values of the two automobiles? Explain carefully.

7. Take a commodity which is assumed to be consumed as rapidly as it is produced, so that production does not cause an accumulation of stock. Using a graph for purposes of illustration:

(a) Show how an increase of demand might immediately cause the price to rise very sharply.

(b) Show how the increase of demand might cause the price to rise less sharply in a somewhat longer period.

(c) Explain how the price is likely to be determined in a still longer period.

8. "The hardship caused by a disturbance of the economic equilibrium is generally greater when the disturbance is occasioned by a specific decrease of demand than when the disturbance is occasioned by a specific increase of demand." Discuss, and illustrate.

PRICES UNDER COMPETITION: "NORMAL" PRICES AND THE PRICE SYSTEM

The price of pig is something big,
Because its corn, you'll understand,
Is high-priced, too, because it grew
Upon the high-priced farming land.

If you'd know why that land is high,
Consider this: its price is big
Because it pays thereon to raise
The costly corn, the high-priced pig!¹

Changes of Normal Price: Supply Changes

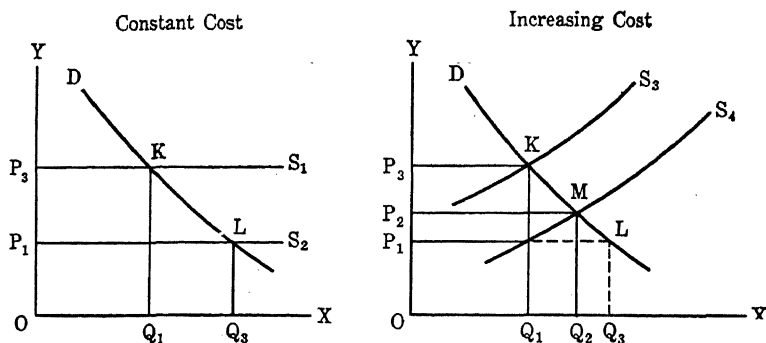
THE CONSEQUENCES of any given change in the normal supply schedule of a commodity depend on the characteristics of both the normal supply schedule and the normal demand schedule. To illustrate the part played by the supply schedule, we shall compare two situations which differ only with respect to the type of the supply schedule. To illustrate the part played by the demand schedule, on the other hand, we shall compare two situations which differ only with respect to the type of the demand schedule.

DIFFERENT TYPES OF SUPPLY SCHEDULE

In both of the two long run normal price situations described by the following graphs, a given demand schedule, D , is intersected at the same point, K , by two cost schedules—the constant-cost schedule P_3S_1 and the increasing-cost schedule S_3 . The equilibrium price is the same, or OP_3 , in both cases; and the equilibrium quantity is also the same, or OQ_1 , in both cases. Owing to the long run tendency for additional companies to enter the industry if the price exceeds average cost, the long

¹From H. J. Davenport, *The Economics of Enterprise*, 1913, footnote, pp. 107–108. By permission of The Macmillan Company, publishers.

run cost schedules are schedules of average cost. Next we assume that the average cost of OQ_1 quantity (output per unit of time) is reduced by half in both cases, falling from OP_3 to OP_1 . The new constant-cost



schedule is P_1S_2 and the new increasing-cost schedule is S_4 . The demand schedule, D , remains the same as before in both cases. The fact that the cost schedules are of different types in the two situations now makes a difference. The new equilibrium price is lower, and the new equilibrium quantity greater, in both situations, but the change in both respects is larger in the constant-cost situation than it is in the increasing-cost situation. In the constant-cost situation the price falls all the way to OP_1 and the quantity increases all the way to OQ_3 , while in the increasing-cost situation the price falls only to OP_2 and the quantity increases only to OQ_2 .

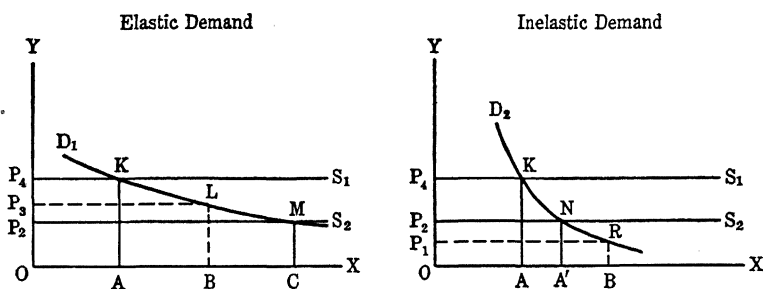
For purposes of clarity, a violent reduction of cost has been assumed in both situations, and a perfect case of constant cost has been assumed in one situation. But these departures from "realism" do not seriously damage the general conclusion. A sharp reduction of the average cost of a given output is a common occurrence, even though this cost may not be reduced by nearly so much as half. Although there are no perfect cases of constant cost to contrast with cases of increasing cost, various products differ greatly in the degree to which they are subject to increasing cost with expansions of output, and this gives us much the same *contrast* that we have in our hypothetical illustration. For example, an increase of, say, 20 per cent in annual output will cause a much more pronounced increase of average cost in the case of copper than in the case of wheat, or in the case of wheat than in the case of lamp bulbs. Thus, equally marked improvements in productive technique will, in the long run, cause a less marked reduction of price and increase of out-

put in the case of copper than in the case of wheat, and in the case of wheat than in the case of lamp bulbs.

DIFFERENT TYPES OF DEMAND SCHEDULE

But the results of changes in whole cost schedules depend also upon the *elasticity of demand* for products. From a practical point of view, this is extremely important. The reason is that the value of given productive resources used in an industry depends on the value of what the resources produce. Where demand is elastic, a general fall of average cost (a real increase of supply) causes the total amount of money spent on the product to be greater than before. Thus it causes the total value of the product to be greater, and calls for an increase in the amount of resources used in the industry.² This has been the case with automobiles and radios, for example. But where demand is inelastic, a general fall of average cost leads to a decrease in the total value of the output and calls for the use of less resources in the industry. This has been the case with many farm products for a long time. The reduction of cost brought about by the growing use of tractors and combines has served to aggravate the plight of the farmer.

The point is illustrated by the following graphs. We use two different demand schedules, D_1 and D_2 in the same cost situation. In both



cases there is constant cost, and the average cost of a given output, OA , is represented as being cut in two by substituting cost schedule P_2S_2 for P_4S_1 . The single difference in the two cases is that D_1 is more elastic than unity while D_2 is less elastic than unity. The thing especially to be noticed is how the fall of the cost schedule (the increase of supply) affects the quantity demanded in each case. Where the demand is elastic, the quantity demanded more than doubles. In the graph this quantity

² We are dealing here, of course, with an increase of supply which is caused, not by a decline in the prices of productive agents, but by an improvement in the technique of production. Under competitive conditions, a decline in the price of a productive agent must be assumed to be *general*. We are concerned, on the other hand, with a *relative* increase in the supply of a given product.

trebles. In order to produce three times the former output at one-half the former average cost, one and one-half times the former amount of productive power must be used. Where, on the other hand, the demand is inelastic, the quantity demanded does not so much as double. In the graph, this quantity becomes only one and one-half times greater than before. In order to produce one and one-half times the former output at one-half the former average cost, only three-fourths the former amount of productive power is required. Using the whole of the former amount of productive power, the output would be OB , and the price would be OP_1 , or only half the cost. The industry will be overextended and depressed unless it gets rid of one-fourth its productive power, thus limiting the output to OA' .

So far, we have dealt only with the *extent* of the adjustment which must take place. To summarize: In the case of the elastic demand, D_1 , merely doubling the output will cause the price to exceed the average cost by P_2P_3 , and the output must be trebled to bring the price down to the average cost. In the case of the inelastic demand, D_2 , doubling the output will cause the average cost to exceed the price by P_1P_2 , and the output must be held to OA' in order to sell it at average cost. Now let us consider briefly the *process* of adjustment. In practice, all the producers in the field do not first suddenly and simultaneously double their outputs by introducing the improved technique and then readjust in accordance with the consequences. Instead, the process begins with the adoption of the improvement by some producers, others continuing for a time to use the old technique. But, as the output increases somewhat, the price falls below the average cost which corresponds with the old technique, and, therefore, other producers are under pressure to improve their technique. Meanwhile, with the spread of the improvement throughout the industry, more or less readjustment is made in the quantity of productive power. If competition were "perfect," the quantity of productive power would expand at just the right pace where demand was elastic and contract at just the right pace where demand was inelastic. In reality, the adoption of the improvement outruns the change in the quantity of productive power. Of course this causes trouble where the demand is inelastic.

ELASTICITY OF DEMAND AND THE INDIVIDUAL PRODUCER

As noted on page 155, no matter what the elasticity of demand for the whole of any commodity, the demand for the output of any particular producer is extremely elastic. That is to say, once any given price is established, the individual firm may enlarge its sales a great deal by

lowering its price a little, which it can do by reducing its average cost slightly. Thus there is a powerful incentive to adopt any available improvement. The individual firm has much to gain by being quicker than its competitors, and much to lose by being slower than they are. It adopts new and improved equipment before the old wears out. The rate at which an improvement spreads throughout an industry is determined, not merely by the physical depreciation of existing equipment, but by a combination of physical depreciation and obsolescence. Where the demand for the product as a whole is inelastic, the outcome is likely to be prolonged overproduction. Each producer, even though he knows that there is already too much of the product as a whole, is inclined to reason that he can keep his own cost below the price which is unprofitable to most producers. The more widely this theory is held, of course, the more false is the theory. Nevertheless, bitter experience is a slow and wasteful teacher; and resources which should be transferred remain for a long time in an overextended field. Not infrequently, the eventual result of the experience is the encouragement of monopoly. Faced at all times with the hazard of unstable conditions of demand and supply, and faced at some times with overproduction throughout the industry, individual producers get together. They decide to "live and let live," and they may decide on a "standard of living" which nothing short of monopoly will support.

SUPPLY CHANGES AND ECONOMIC EQUILIBRIUM

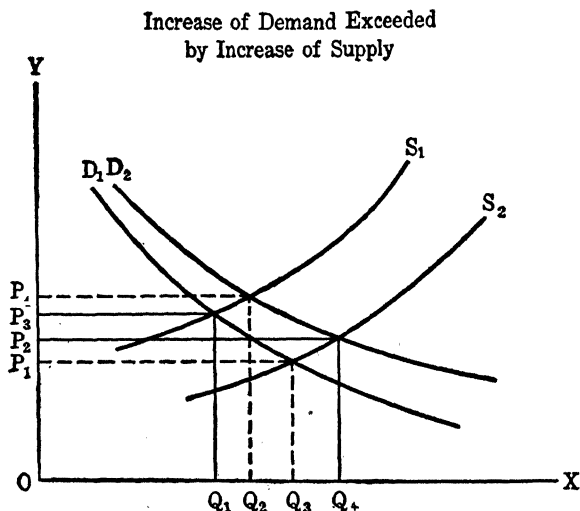
Like changes of normal demand, changes of normal supply upset the general economic equilibrium. In general, *increases* of supply are most troublesome when they relate to products the demand for which is inelastic. A given increase of the supply (lowering of the cost schedule) of an inelastic-demand good causes a comparatively great reduction of total expenditures on the commodity in question and a comparatively slight increase of expenditures on each of many other commodities. The investors and workers in the industry which produces the inelastic-demand good may be seriously damaged if the demand is highly inelastic and if the increase of supply is great. On the other hand, the additional money which is spent for an elastic-demand good, as a result of an increase in the supply of the good, is typically deducted from total expenditures on many other goods, so that there is not much decrease in the total money sales of any other single good. The rule works the other way, of course, where *decreases* of supply are concerned, these decreases proving most troublesome when they relate to products of elastic demand.

Changes of Normal Price: Supply and Demand Changes

Changes of normal demand and changes of normal supply overlap in time. A change occurs on one side, and, before its logical consequences are fully worked out, a change occurs on the other side. In a progressive economy, the most common combination of supply and demand changes tends to be that of an increase of demand and an increase of supply. The following illustrations will suffice to indicate how the results of any combination may be reasoned out.

INCREASE OF DEMAND, GREATER INCREASE OF SUPPLY

Take first a case which has occurred in the peacetime automobile industry. There are increases of demand and also increases of supply, the latter being the more pronounced. The case is illustrated by the graph.

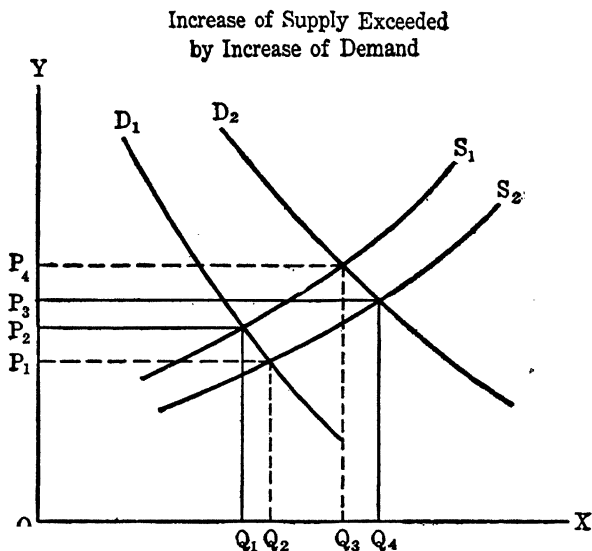


We begin with demand schedule D_1 and supply schedule S_1 . The normal output is OQ_1 and the normal price is OP_3 . In time, the demand increases to D_2 . Taken by itself, this change would make the normal price OP_4 and the normal output OQ_2 . While this increase of demand is occurring, however, the supply increases to S_2 . As far as normal price is concerned, the two changes tend to counteract each other. Taking as a whole the period in which the changes occur, the increase of supply not only prevents the increase of demand from raising the price but causes this price to fall from OP_3 to OP_2 . As far as output is concerned, however, the two changes reinforce each other. The increase of demand alone

would expand the output only to OQ_2 , while the increase of demand and the increase of supply together extend the output to OQ_4 .

INCREASE OF SUPPLY, GREATER INCREASE OF DEMAND

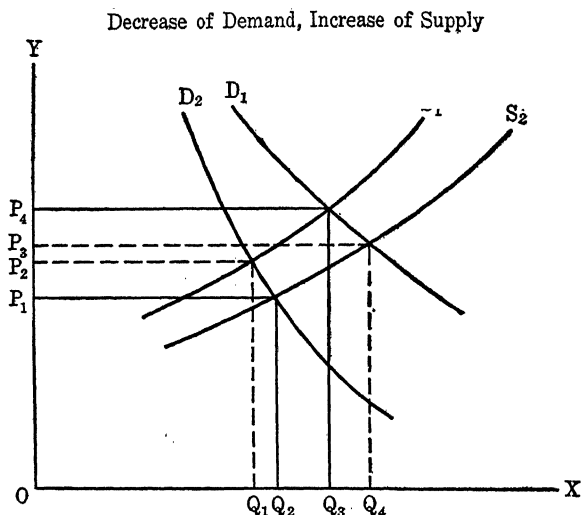
Take next a case which is not uncommon during wartime. A comparatively young industry which is subject to improvements in productive technique is called on to meet great increases of demand. Fairly good examples are provided by synthetic nitrate during the World War and synthetic rubber (in Germany) during the present war. (Airplanes present a more complicated example because of comparatively greater changes in the quality of the product.) For each increase of supply there is a more than corresponding increase of demand. Further, the abnormally rapid expansion of output gives rise to a marked increase of average cost under any given technique of production. The graph illus-



trates the case. Taken alone, the increase of supply from S_1 to S_2 would decrease the price from OP_2 to OP_1 and increase the output from OQ_1 to OQ_2 . When this increase of supply is taken together with the increase of demand from D_1 to D_2 , however, the price rises from OP_2 to OP_3 and the output increases from OQ_1 all the way to OQ_4 . A motion picture would present the situation more realistically. It would show both schedules moving to the right, the demand schedule steadily and the supply schedule intermittently (as new techniques were adopted), and the former more rapidly than the latter.

INCREASE OF SUPPLY, DECREASE OF DEMAND

The following graph illustrates the case of an increase of supply combined with a decrease of demand. The case is similar to the situation of leading American farm products in the 1920's and early 1930's. For example, the supply of American wheat was increased by means of such improvements as the tractor and the combine, and the demand was decreased by the dwindling of the foreign market. Let us first use the graph to illustrate what would have happened had American agriculture



actually adjusted itself to the changes of the situation. Taken together, the increase of supply from S_1 to S_2 and the decrease of demand from D_1 to D_2 would have lowered the price from OP_4 to OP_1 and would have decreased the output from OQ_3 to OQ_2 . Actually, the results were different. For reasons which are reviewed in Chapter XVIII, American farming is very unresponsive to changes in the conditions of supply and demand. Thus the farmers, who should have been induced by both the inelasticity of demand³ and the general decrease of demand to transfer resources out of the industry, went ahead much as before, and found themselves in a correspondingly embarrassing position.

CUMULATIVE CHANGES OF DEMAND AND SUPPLY

Increases of either demand or supply may be cumulative. An increase of demand may occasion further increases of demand. By first creating a

³ The demand for American wheat grew less and less elastic as sales of it came to be confined more and more to the American market. For this reason, D_2 is less elastic than D_1 .

demand for submarines in his native Greece, Basil Zaharoff was enabled to sell submarines not only to Greece but also to Turkey, the traditional enemy of Greece. The same principle of mutual distrust was worked by other armament salesmen on Japan and China, Chile and Argentina, and other national rivals. This game of "keeping up with the Joneses" plays no small part in the competitive spending of social rivals on houses, automobiles, furs, divorces, and the like. On the other hand, an increase of supply may give rise to other increases of supply. That is, improvements in the arts of production generate still further improvements. Inventions are based on past inventions: "one thing leads to another." Thus, Watt was enabled to develop the steam engine because the quality of steel had been improved in order to make better guns. It would be careless to suppose that an economy becomes "mature" in the sense that a high state of development decreases the likelihood of future development. On the contrary, every advance in the arts conduces to further advances. "Maturity" should not be interpreted as improbability of change, unless one is satisfied to reach the conclusion that the least developed economy is the most mature.

Joint Supply and Joint Demand

Hitherto we have assumed that each product has a separate cost schedule and a separate demand schedule. Usually this is true. But it is not always so. There are occasional cases of joint cost, and there may be cases of joint demand.

JOINT COST

Two or more commodities are produced at joint cost when their costs are inseparable—when the commodities do not have separate cost schedules. This occurs in so far as the commodities are *necessarily* produced together and produced in *invariable proportions*. A decided case of joint costs was faced when the authorities were called on to fix the price of cottonseed cake in the autumn of 1917. The cake is fed to cattle, especially in the Southwest; and, since the price had risen from about \$45 to \$70 a ton, many cattle were being allowed to starve. The general principle of price fixing had been that of setting the price at approximately the cost of production. But this principle would not work for cottonseed cake, because the cake is a product of cotton seed, and cotton seed does not have an independent cost schedule. When cotton is produced, fiber (lint) and seed are necessarily produced together. And the proportions between the two are highly invariable: about two pounds of seed to every pound of fiber.

If it were practicable to vary the proportions, separate costs could be found. Suppose, to take an extreme case, that producers could change to a type of cotton which was *all* seed. Then, of course, the whole cost of cotton would be the cost of seed. Or, to take a more moderate case, suppose they could switch to a variety yielding a pound more seed to each pound of fiber. Then the cost of seed might be figured as follows: To get as much fiber as before, it would be necessary to produce more cotton. This would increase the amount of seed. The cost of the extra cotton could then be charged up to the extra seed; and, with the unit cost of seed known, the separate cost of fiber could be found by subtraction. But, since it was not practicable to change the variety of cotton, the only way to make prices equal costs was to make the prices of fiber and seed together equal the *joint* cost of the two.

To illustrate how the prices of joint-cost goods are determined, under competitive conditions, start with the prices of cotton seed and cotton fiber just covering the joint cost of the two commodities. Now assume that the demand for fiber increases. The immediate result is this: An increase in the price of fiber raises the returns from the two products above their joint cost. The later result is this: In order to get more fiber, the output of cotton is extended, thus increasing the quantities of both fiber and seed. The price of seed falls below the level where it stood at the start. The price of fiber falls to a figure somewhere between the original price and the price temporarily established by the increase of demand. The tendency is to increase the output of cotton just enough so that the returns from seed and fiber together once more equal the joint cost of the two. In the long run, then, an increase in the demand for one of the products raises the price of this product and lowers the price of the other.

But this is not the logical result unless the proportions are inelastic. When the improvement of refrigeration on ocean vessels increased the demand for mutton produced in Australia and New Zealand, the farmers were able to expand the output of mutton without expanding the output of wool.⁴ They did it by substituting crossbred sheep for merino. The crossbreds run more to mutton and less to wool than the merinos do. Where goods are produced together, the test of joint cost is the rigidity of proportions. In practice, this is often a question of time. For example, the costs of various railway services come closer to being joint in a short period than in a long one, because the proportions among different types of rolling stock, terminals, and so on, are harder to change in the former

⁴ See H. D. Henderson, *Supply and Demand* (1922), Chap. 5. See also Alfred Marshall, *Principles of Economics* (6th ed., 1910), Book V, Chap. 6.

case than in the latter. The mere fact that certain fixed, or overhead, costs are spread over different products making use of the same facilities does not necessarily mean that the overhead costs are joint costs. As a rule, they are not. As a rule, the proportions among the different products are elastic. Thus the "57 varieties" of Heinz are not joint-cost goods. Despite common use of certain buildings, buying agencies, sales force, and the like, things like cucumber pickles and tomato catsup are not produced in invariable proportions.

JOINT DEMAND

Commodities which, though they have separate cost schedules, are demanded together in inelastic proportions are joint-demand goods. In so far as the proportions are inelastic, an increase in the supply of one of the commodities will increase the demand for the others. Jointness is thus a matter of degree. In general, the degree of jointness is likely to be greater in the short run, and for production goods, than in the long run, and for consumption goods. Bread and butter, coffee and sugar, shoes and shoe laces, shirts and collars, and so on, are used together, but not in proportions so rigid that separate demand schedules do not exist. The situation is similar with the paraphernalia of sport. It is a bit far-fetched to suppose that an increase in the output of baseball bats will appreciably swell the demand for baseballs, or that a plethora of short-stops will enrich pitchers. Rumor has it that the building of an expensive stadium sometimes intensifies the demand for football players and coaches, but no broad generalization to this effect seems safe.

With certain productive agents there is a stronger case for joint demand, especially within time periods too short to permit much substitution. Building booms no doubt play strongly into the hands of the skilled trades. An increase in the demand for building raises the demand for both skilled and common labor. The ratio of common to skilled labor rises in centers of activity, because the supply of common labor that can be drawn on is much larger, and because the supply of skilled is restricted also by union regulations. Since skilled and common labor are required in fairly inelastic proportions, the demand for the skilled is intensified. In similar fashion, the demand for automobiles may be called a joint demand for various materials going into automobiles. In the long run, it is true, variability in the proportions among different materials largely nullifies the jointness of demand. But in comparatively short periods the jointness is of some practical consequence. Thus, the rapid growth in the production of automobiles and, later, the introduction of "balloon" tires greatly increased the demand for rubber.

Normal Prices As a Whole: The System of Prices

Thus far we have dealt with the tendency of any individual price to conform with some normal price. But there is also a tendency for all individual prices to become arranged in conformity with a pattern, to fall into a set of interrelationships, which it is fair to term the "norm," the "system," of prices in general. In other words, there is a tendency for the prices and outputs of all commodities to be in "equilibrium." Just as the normal price and normal output of any individual commodity depend on the normal supply and demand of the commodity, so do the various prices and outputs which jointly compose the general equilibrium depend on the supply and demand of each and every commodity in the whole price system. Thus, like the normal price and output of a single commodity, the composition of the equilibrium depends on the conditions of supply and demand, varying as these conditions vary.

This is the tendency. In order to set forth its operation as clearly as possible, we begin with a simplified situation. We assume for the time being that productive power is perfectly mobile. This assumption has the effect of making the tendency to equilibrium operate with lightning speed instead of working in the more or less slow and halting fashion which we observe in practice. We assume also for the present that all productive power consists of homogeneous units. Thus, for purposes of illustration, the only economic agent of production consists of uniformly good laborers, all of whom would have precisely the same skill in any given industry that they would have in any other. This assumption simplifies the discussion in two ways. It eliminates diminishing returns, since the basis of diminishing returns is the proportions between two or more agents, and here we have only one agent. It also bases the transfer of productive power from field to field purely on comparative productivity in different fields, since it makes all units of productive power equally well adapted to all branches of production. Any other assumption would be inconsistent with the assumption that productive power is perfectly mobile. These simplifications, which will be qualified later, will make it easy to understand the essential character of equilibrium, and this is the main purpose just now.

EQUILIBRIUM

Under these conditions the outputs of all products, the prices of all products, and the prices of productive power in all fields, will be in equilibrium. The total quantity of labor will be so distributed among different fields of production that the value of the product of one unit

of labor will be everywhere the same. That is to say, any momentary deviation from this general pattern must be instantly eliminated by the perfect mobility of labor. A unit of labor could not be more productive in, say, automobiles than in other industries. If it were, enough labor would instantly flow from other industries to the automobile industry to wipe out the difference. It could not be less productive in, say, cotton than in other products. If it were, enough labor would instantly flow from cotton to other products to wipe out the difference. The value of labor, per unit, must be equal to the value of the product of one unit of labor; and, since this value must be equal in all fields, wages must be equal in all fields.

"OPPORTUNITY COSTS"

Equilibrium has just been described in terms of productivity. It can be described also in terms of costs. The output of each product, under the conditions assumed, will be pushed to just the point where selling price equals cost of production. The cost of each product is an "opportunity cost," as American economists often call it. Thus, the labor cost of each product is determined by the value of labor in other "opportunities," in the production of other commodities. In any given field of production labor costs what it is worth in other fields of production.

The point may be illustrated by considering the verses which stand at the head of this chapter. Reduced to simplest terms, what our rhymester tells us is this: Pork is high because productive power is high, while productive power is high because pork is high. Although he used farming land to illustrate productive power, let us continue to use labor. Then the proposition is: Wages determine the price of pork, and the price of pork determines wages. The first half of this is right. But the second half is wrong. It is all products together, not just pork, which determine wages in pork production. All products compete for the available supply of labor, and wages equal what labor is worth when properly distributed among all. Pork, since it is only one of a great many products, has an all but negligible effect on the outcome. It is something like a drop in the bucket. If pork alone determined wages in pork production, any amount of pork could be produced without causing the selling price to fall below cost. But in fact the cost of pork is *opportunity* cost: it is determined almost wholly by the value of *other* opportunities to use labor. The result is that pork production can be carried only to the point where the pork produced by a unit of labor sells for as much as the per unit value of labor in other products. Beyond this, pork will sell at a loss.

Now let us qualify our highly simplified assumptions.

DIMINISHING RETURNS

We have got around diminishing returns by assuming that productive power consists of uniformly good units of a single agent. In reality, there is more than one agent. Thus, there are labor and land. In reality, there are also different grades of any given agent. Thus, acres of land differ as to fertility and location, laborers as to training and native capacity. Yet these facts do not substantially alter the foregoing conclusions concerning the equilibrium of prices, outputs, and costs. All that happens when they are introduced is that productivity must be figured separately for each grade of each agent. The necessary principle—the “principle of imputation”—is outlined in Chapter II, which deals with diminishing returns. Each grade of each agent has a unit value equal to its *marginal* product.

For example, the marginal product of the common labor used in producing wheat means, in terms of wheat, the amount by which the output of wheat would be reduced by losing one unit of labor. Multiply this by the price of wheat and we get the marginal product of the labor in terms of value. The same principle holds for all grades of labor in all industries. The point is that each grade of labor has a productivity of its own. Thus labor of any given grade tends to be distributed in such a way as to be equally productive wherever used. The principle is the same for all grades of land and for all grades of any other agent. Each grade tends to be so apportioned among the various fields of production as to have the same marginal productivity in all fields.

FRICTIONS

We have assumed productive power to be perfectly mobile, thus imparting lightning speed to the *tendency* for each grade of each agent to be equally productive in all fields. But of course productive power is far from being perfectly mobile. Its movement from field to field, in response to changes in productivity which coincide with changes of supply and demand, is hindered by various “frictions.” It will suffice to describe two general types of friction and to note their consequences.

First, the more highly specialized and durable agents of production, assuming that their marginal productivity in different fields is known, are especially hard to move. Even unskilled laborers are made more or less immobile by home ties, poverty, general lack of bargaining power. Nevertheless, this fact is not so disturbing to the principle of equilibrium as it may sound. On the one hand, it is not necessary that the *whole* of a given agent be mobile. An economy is not called on to transfer all

its labor, all its land, all its capital, from existing employments to others. It is required to transfer only enough to iron out the differences of productivity which are created by changes of supply and demand. And there are always some workers, some acres, some capital instruments, which can be transferred with relative ease. For example, young and unmarried workers are more mobile than older and married workers. On the other hand, it is not necessary to establish an equilibrium *instantly*. In a social economy, which is a long-run affair, the tendency toward equilibrium does not become unimportant because it operates slowly. That is to say, productive power is more mobile in the long run than in the short run. To illustrate, labor can be mobile in the long run even though the labor force at any given time consists predominantly of immobile workers. That is, the general distribution of labor can be changed as young persons reach working age. However, this is not to deny that the "short run" immobility of some agents is a source of much hardship. The point is well illustrated by the saying, "The trouble with the world is that God's in no hurry and I am."

A second general type of friction consists in ignorance concerning the productivity of agents in different fields. Actually, one does not withdraw one unit of a given agent in order to discover the marginal product of this agent. To illustrate, take the case of a corporation which operates, say, half a dozen large stores. The management wishes to learn the marginal productivity of a given type of clerk. Suppose it tries to find out by comparing the incomes of two or more stores using different combinations of clerks and other productive agents at a given time. The trouble is that no two stores are sufficiently similar in other respects to warrant the conclusion that differences of income are ascribable to differences in the combinations. Or suppose the management changes the combination of productive agents in a single store by releasing one clerk or engaging an additional clerk, as the case may be. The difficulty is that the different numbers of clerks are used at different times, and, with the passage of time, still other conditions affecting the income of the store are changed. In practice, even with the best of cost accounting, the marginal productivity of agents is ascertained largely by guesswork, by trial and error. Yet this fact is by no means fatal to the principle of equilibrium. In a guessing economy there are good, bad, and indifferent guesses. Bad guesses are punished and good ones are rewarded. As time goes on, good guesses are imitated and bad ones are corrected. Thus the process of trial and error, erroneous as it is at any given time, is always tending to yield reliable information about marginal productivity.

CONCLUSION

In spite of frictions, the tendency of prices and outputs to come into equilibrium is very important. Actual history has verified it time and again. Any particular price, any particular output, certainly is one item in a great system of interrelated prices and outputs. The costs of producing any particular product certainly are opportunity costs: they depend on the competition of other products for the use of the limited supply of productive power. Farming in ancient Rome declined because the opportunity cost of producing grain became higher than the value of the grain. This occurred partly because Rome began importing grain from more fertile land in her colonies, partly because labor was drained off to more lucrative occupations in the cities. Similar factors explained the abandonment of New England farms. At the same time that the development of the West lowered the price of grain, the rise of New England manufactures raised the opportunity costs of local farming. During the World War the spectacular increase in the prices of some goods interfered violently with the production of others. Thus, the soaring price of beef aggravated the shortage of wool, because sheep had to yield to the competition of cattle in Argentina. It also reduced the supply of milk, because cows came to be worth more for beef than for milk. For similar reasons, 1941 found the United States transferring enormous amounts of productive power, partly from former idleness and partly from normal peacetime employments, to commodities the demand for which had been greatly increased by war and the prospect of war.

Such is the long-run tendency of prices and outputs as a whole. Yet at any particular time, even where competition is predominant, prices and outputs are more or less seriously out of harmony with the long-time "norm." Barring the way to the best balance we find changes of demand, changes of supply, and sluggishness in the movement of resources from product to product. Still more impressive obstacles are found when we turn from competition to monopoly and monopolistic competition. In the next chapter attention is directed to the workings of monopoly.

PROBLEMS

1. "It is obvious that in the long run changes of demand cause changes of supply and changes of supply cause changes of demand."

Do you agree? Explain, indicating the conclusion to which you would be led by accepting the statement.

2. "Economists are an inconsistent lot. First they tell us that the owners

of the radio industry are likely to be benefited by an improvement in the technique of production, and then they tell us that the owners of farms are likely to be injured by an improvement in the technique of production."

Discuss the supposed inconsistency.

3. Suppose that the increased use of tractors causes a general reduction in the cost of producing wheat. What is the probable effect on the output, the price, and the value of the productive power used in the industry? What have you assumed with respect to the conditions of supply and demand, and why? Answer the same questions for an improvement in the technique of producing a particular brand of cigarettes.

4. Discuss this statement: "Economic problems would be fewer and simpler if the demand schedules for most products had an elasticity of unity."

5. Explain what is meant by the statement that, in a competitive situation, the demand for the output of an individual producer is highly elastic even though the demand for the output of all producers in the industry is highly inelastic. Explain how the elasticity of demand for the individual producer's output may lead to the elimination of competition.

6. Using graphs for purposes of illustration, discuss the consequences of:

(a) An increase of normal demand together with an increase of normal supply.

(b) An increase of normal supply together with a decrease of normal demand.

7. Assume that a vigorous wardrobe competition is raging in Hollywood, or that the women's clubs of a city are competing bitterly for the services of lecturers possessed of foreign accents. Using a graph to make the main point clear, discuss the effects of such competition on demand and price.

8. "The outlook for prosperity in our country is bleak indeed. Unfortunately, America has come of age. Nowhere on the horizons of the future need we look for such epoch-making developments as the railway or the automobile or the radio to pull us out of chronic depression. We shall never benefit again by the development of these fields, for their development belongs to the past. Past developments have foreclosed opportunities for future development. Since our economy is now mature, economic stagnation is no longer a mere cyclical affair. Depression will be secular in the future—unless, of course, the government steps in and plays the part which inventions and discoveries played in the past but which it would be mere wishful thinking to suppose that they will play in the days to come." Discuss.

9. Explain the meaning of joint cost. Are corn stalks and ear corn produced at joint cost? If so, how does an increase in the demand for paper manufactured from corn stalks tend to affect the price of corn meal?

10. Explain how an increase in the cotton crop tends to affect: (a) the price of shoes; (b) the price of beet pulp (a by-product of beet-sugar production which is used in feeding cattle); (c) the price of cane sugar.

11. Assuming the labor of organized masons and of unorganized hod carriers to be jointly demanded in the building trades, how would a sharp increase in the union dues of masons tend to affect the wages of hod carriers?

12. If skilled labor and common labor are jointly demanded, how does the restriction of immigration tend to affect the wages of skilled labor?

13. Discuss the following statement critically: "The academic economist

tells us that the marginal productivity of labor tends to determine wages. The practical businessman, on the other hand, knows that wages tend to determine marginal productivity. He knows that the marginal productivity of labor in his business depends on the amount of labor he combines with his other productive agents, and he knows that the amount of labor he can afford to employ depends on the wages he has to pay. Thus wages, by determining the amount of his labor, determine the marginal productivity of his labor. Therefore the economist has the proposition upsidedown."

14. On two plots of ground not far removed from the heart of a western city with a population of 80,000, tobacco and fruit are being raised. The orchard is operated by an institute for the deaf; the little tobacco farm, by a big state university.

Discuss the determination of the cost of producing the fruit and tobacco. Is the cost in each case high or low, in your opinion? Explain. Does the fact that each plot of land is operated by its owners make any difference? Explain.

15. After the Civil War, railway extension and the opening up of the West contributed to the decline of the American merchant marine. Explain.

16. Draw some examples from America's defense program to illustrate the meaning of opportunity costs.

XIV

PRICES UNDER MONOPOLY

"And [Joseph] gathered up all the food of the seven years, which were in the land of Egypt. . . . And all countries came into Egypt to Joseph for to buy corn; because that the famine was sore in all lands. . . . And Joseph gathered up all the money that was found in the land of Egypt . . ."—
GENESIS, 41:48, 52; 47:14 (800 B.C.)

MONOPOLY is old, and, although Genesis seemed to approve the grain corner in Egypt, it has been rather unpopular elsewhere. Several centuries after the time of Joseph, Proverbs had this to say: "He that withholdeth corn, the people shall curse him; but blessings shall be upon the head of him that selleth it." The blessing is reserved, however, for him that selleth not too high. In 1524 Martin Luther declared: "The rule is false and unchristian that anyone sell his goods as dear as he will or can; more abominable still is it that anyone should buy up the goods with this intent." He was thinking of "forestalling" (buying up an incoming supply of goods before it reached the open market), "engrossing" (cornering the supply), and "regrating" (buying simply for the purpose of selling later at a higher price). The medieval guilds made special efforts to suppress such practices. The modern attitude is much the same. George Washington was of the opinion that monopolists deserved to be hanged on a gallows higher than that of Haman. Monopoly was frowned on by the English common law, the basis of our legal system; it has been attacked under federal statutes for nearly half a century; and we hear threats of a renewed legal crusade against it today. The basis of this ill repute lies in the way monopoly prices are determined.

Monopoly Price

Derived from the Greek *monos*, meaning "alone," and *pōlein*, meaning "to sell," the term "monopoly" implies control over the sale of a commodity by a single seller. It is used also in the broader sense of an exclusive privilege of trade. There are, in fact, various forms of monopoly.

Among them are selling monopoly and buying monopoly, simple monopoly and discriminating monopoly. Although each will be considered below, the form having the greatest practical importance is that of simple monopoly over sale. (The adjective "simple" implies that the monopoly seller does not "discriminate" by charging different buyers of his commodity different prices.) Attention will now be centered mainly on this form.

GENERAL PRINCIPLE

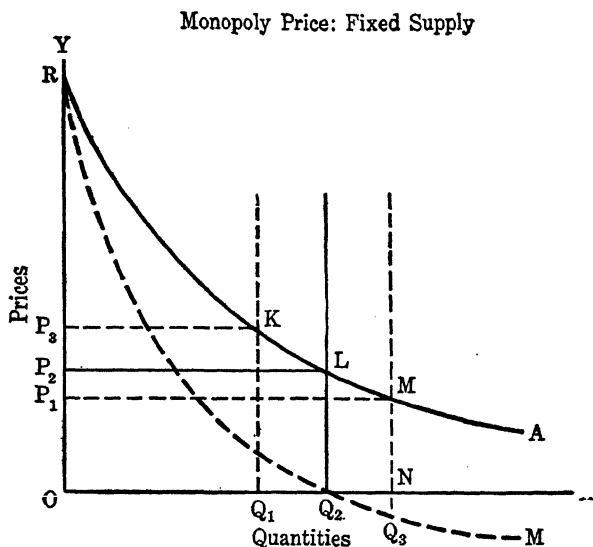
To bring out the essential principles as sharply as possible, assume an ideal case of simple sale monopoly. Units of a given commodity are being sold at a uniform price to a large number of competing buyers by a single seller, or by a combination of sellers which acts as one. The monopolist knows just what the demand and cost schedules of his commodity are. He is not restrained by either public intervention or the fear of it. No matter what he charges, competitors cannot come into the field. Under these circumstances, the principle of monopoly price is clear. Monopoly price is the price of a supply so controlled by the monopolist as to yield the largest total net revenue. This total depends on two things: the net revenue per unit sold, and the number of units sold. In every situation there is some quantity of sales which yields the maximum net revenue. This quantity depends on the situation. We turn now to the determination of monopoly price in different types of situation.

FIXED SUPPLY

In a situation such that the supply of the commodity is fixed, cost of production plays no part in determining the quantity which the monopolist sells. Since the output and its cost have already been determined, the monopolist simply sells the quantity (within the limits of the fixed supply, of course) which yields the maximum total gross revenue. This quantity is determined by the elasticity of demand. Under monopoly conditions the demand for the company output is also the demand for the industry output, since there is only one company in the industry, and therefore it is much less elastic than the demand for the company output under competitive conditions.

The situation is illustrated by the following graph. The demand schedule (which is also the schedule of average revenue) is RA . The marginal revenue schedule, RM , indicates how total revenue would vary with variations in the quantity sold. The demand schedule is elastic from R to L and inelastic from L to A . Consequently there is a positive marginal revenue up to a quantity of OQ_2 and a negative marginal revenue

thereafter. Assume that the fixed supply is OQ_3 . Our monopolist does not sell the whole of this quantity, however. What he does do is sell neither more nor less than OQ_2 . The total revenue is greater for this quantity than for any other quantity from zero to OQ_3 . Each additional



unit of sales from zero units to OQ_2 would increase the total revenue, and each additional unit of sales beyond OQ_2 would decrease the total revenue. This is indicated by the fact that the marginal revenue is positive until the quantity reaches OQ_2 , is zero for a quantity of OQ_2 , and is negative beyond OQ_2 . If the demand were elastic all the way from R to M , the monopolist would sell the whole of the fixed supply, or OQ_3 . If, on the other hand, the demand were elastic from R to K and inelastic beyond K , total revenue would be maximized by selling OQ_1 units.

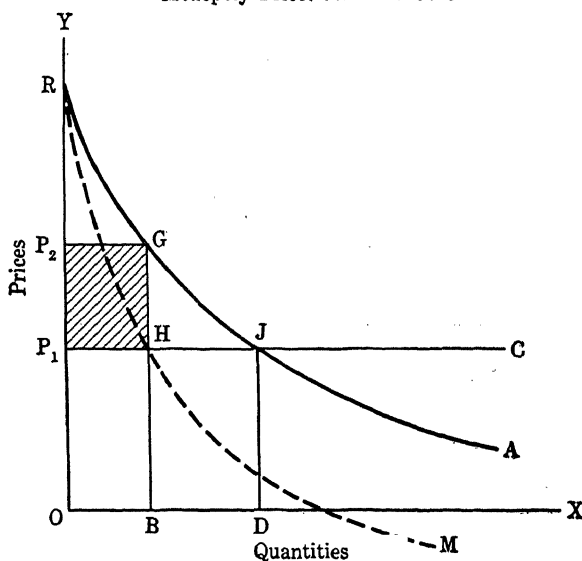
PRODUCIBLE GOODS

From this situation we turn to situations in which our monopolist is currently producing the commodity which he is selling. We assume that current consumption keeps in step with current production, so that production causes no accumulation of stock. In such situations the monopolist seeks, not simply the maximum total gross revenue, but the maximum total net revenue. The total net revenue is equal to total gross revenue less total cost of production. The quantity which will yield the maximum net revenue depends not only on the character of the demand schedule but also on the character of the cost schedule.

We are dealing now with "long run" normal costs—with the situation in which all productive agents are variable. The present purpose is to illustrate simply the essential *difference* between monopoly conditions and competitive conditions in such a situation.

For this purpose we begin with a graph which, in addition to embodying the same demand conditions illustrated by the foregoing graph, includes a long run cost schedule. For the time being we assume that the industry produces at constant cost under monopoly conditions and that the cost schedule is the same as it would be under competitive

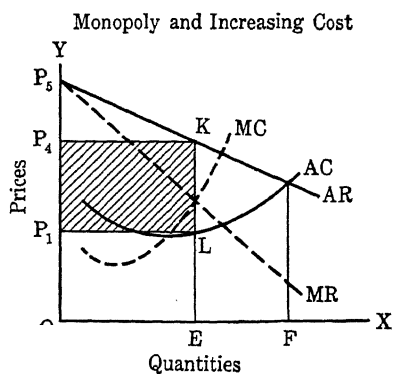
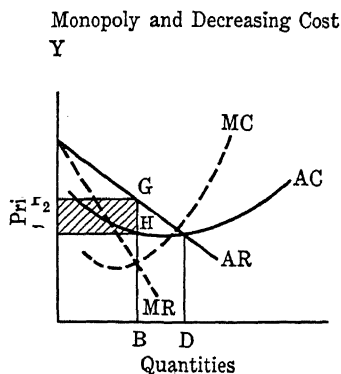
Monopoly Price: Constant Cost



conditions. The schedule of average and marginal cost is P_1C . The average revenue (demand) schedule is RA , and the marginal revenue schedule is RM . Under competitive conditions the output would be OD and the price would be OP_1 . (Any output smaller than OD would cause the price to exceed the average cost, thus attracting companies into the field, while any output larger than OD would have the opposite effect.) This would tend to make marginal revenue and marginal cost equal for each company, since for each of the many companies marginal revenue would be essentially the same thing as average revenue. For our monopolist, on the other hand, the marginal revenue is below the average revenue for every given output, because the monopolist produces the whole output of the industry and the demand for the whole output is much less elastic than the demand for the output of one out

of a large number of competing producers. For the monopolist, the output which makes marginal revenue equal to marginal cost is OB . Hence the monopoly price is OP_2 , and there is a monopoly gain of P_1P_2 on each of OB units of output. The total monopoly gain is indicated by the shaded rectangle P_1P_2GH .

Suppose, however, that our monopolist produces under conditions of either decreasing or increasing cost. Assuming that the cost schedule would be the same under competition as under monopoly, we have the situations which are illustrated by the following graphs. Average cost



and marginal cost are represented by AC and MC , respectively, and average revenue and marginal revenue are represented by AR and MR , respectively. Under competition the ability of companies to enter or leave the industry would tend to prevent the industry output from being any other than that which made average revenue equal to average cost. Under monopoly, however, the industry output tends to be that which makes marginal revenue equal to marginal cost. In the graph at the left, where the monopolist is producing at decreasing cost, the output, which would tend to be OD under competition, is OB . This gives rise to a monopoly gain of P_1P_2 on each unit of output, the total monopoly gain being indicated by the shaded rectangle P_1P_2GH . In the graph at the right, where the monopolist is producing at increasing cost, the output, which would tend to be OF under competition, is OE . This gives rise to a monopoly gain of P_1P_4 on each unit of output, the total monopoly gain being indicated by the shaded rectangle P_1P_4KL .

But actually the long run tendency toward increasing cost is stronger under monopoly than under competition. In a competitive industry, output can be expanded without increasing the scale of production: the number of companies can be increased without increasing the typical size of either the plant or the firm. In a monopolized industry, on the

other hand, output cannot be expanded without increasing the size of the single firm which occupies the field. Sooner or later, therefore, as output continues to expand, the scale of production becomes less economical and the average cost higher than would be the case under competitive conditions. Thus the long run tendency of the monopolized industry to produce less and charge more than the competitive industry is more pronounced than our simplified picture indicates.

This brief discussion of the principles of the thing is meant, of course, only as a starting point, not as a conclusion. It assumes that the monopolist knows just what he is doing and that he does as he likes. In practice, he is held back by a number of restraints which will now be considered.

Restraints on Monopoly

Martin Luther was more careful than some modern writers and speakers when he stated that a monopolist should not "sell his goods as dear as he will or can." There is a big difference between "will" and "can." No rational monopolist will sell as high as he can. Yet it is sometimes supposed that the monopolist has only to step up his price in order to swell his profits.

ELASTICITY OF DEMAND

With reference, for example, to a Pennsylvania anthracite strike, an otherwise excellent book on American history remarks that "the mining companies merely added to the price of coal all and more than the strike had cost them." Now, from the very principle of monopoly price, it must be clear that this is improbable. The companies, assuming that they constituted a monopoly, must have been seeking the output and price that would yield the maximum monopoly gain. After losing money on the strike, they must have been at least as intent on the maximum gain as they were before. And surely the mere fact that they had suffered a loss would not have changed their opinion concerning the most profitable policy. Had they thought themselves able to increase their gain by further raising the price, it is not likely that they would have waited until after the strike to do so.

Thus one important restraint lies in the fact that the total monopoly gain depends partly on the number of units sold. That is, elasticity of demand acts as a brake on price raising. Under conditions of constant or increasing cost, an elasticity of demand of unity or less would cause the monopoly output to be just one unit! In general, the demand for a monopoly product is much more elastic than unity. In many cases

it is extremely elastic. For example, any particular brand of cigarettes is a monopoly, and the demand for any particular brand is very elastic. The case is the same with any commodity for which there are satisfactory substitutes. Among the remedies suggested by a railroad man for the plight of the railways in the early 1930's was this: "Reduce rates, which are too high. Have very cheap coach rates, which will be so low that a man couldn't afford to use his automobile for a hundred-mile trip."¹ The development of motor competition has increased the elasticity of demand for railway services. The same suggestion might have been made for railway rates on freight traffic for which highway trucks compete. Whatever its cause, elastic demand hampers price raising.

LACK OF KNOWLEDGE

The monopolist is restrained also because his knowledge of cost and demand schedules is limited. To be sure, ignorance can work both ways. It may appear that the monopolist is as likely to raise the price too much as to raise it too little. Or it may be argued that he will experiment until he hits on just the price required to administer the most profitable fleeing. But the price depends on the output, and experimentation with the output of a modern industry is extremely slow and difficult. The chances are that this fact, coupled with the fear of public resentment at price upping, disposes monopolists to err on the side of caution. Where one is not sure, "discretion is the better part of valor," especially where one is responsible for a large and lucrative going concern.

POTENTIAL COMPETITION

Further, the monopolist is usually under the restraint of potential competition. He must beware lest a policy of greed make it profitable for independents to begin the production of the same commodity or something similar to it. Time and again the sugar trust, headed by the American Sugar Refining Company, was faced with the task of buying out competitors who had been brought into the field by abnormally high prices. Brazil's coffee monopoly and Britain's rubber monopoly ran into similar difficulties. We saw in Chapter XI how the "valorization" of coffee contributed to such an increase of output that in 1931-34 the Brazilian authorities undertook to support the price by destroying enough coffee to take care of world consumption for more than a year. At about the same time the supply of rubber had become so large as to drive the price below even the variable, or out-of-pocket, cost of production. An

¹ Quoted from *The Railway Age* by the *Literary Digest*, June 25, 1932.

exceptionally high price can be maintained only by means of control over supply, but a high price itself makes the control of supply difficult.

BUYERS' MONOPOLY

A fifth possible restraint is the formation of a buyers' monopoly among the purchasers of the commodity. The big meat packers in South America found this out during the World War. The buyer was the British government, which had the advantage of controlling the refrigeration space on ocean vessels. If the sellers said, "Buy from us or you don't buy," the buyer was able to retort, "Sell to us or you don't sell." The rubber monopoly encountered similar trouble in the United States. Automobile manufacturers, and producers of automobile tires, are not so numerous that they are unable to work together when the occasion demands. The high price of rubber gave them a fitting occasion. By making more use of worked-over rubber, they were able to limit their demand a great deal. Users of automobiles co-operated by following Hoover's motto, "Wear tires to destruction." The restriction of demand, though it was not so important as the increase of supply by the Dutch independents, contributed to the collapse of rubber prices.

As a rule, however, a buying monopoly is not likely to be an adequate offset for a selling monopoly in the same product. As favorable a situation as the buyer would be likely to find was illustrated by the purchase and sale of milk in the Chicago area during the first World War. For a while, the large distributors, who constituted something close to a buying monopoly, had a rather good time. They enjoyed two advantages. Being small in number, they found it easy to get together. And, since they were buying for resale, not for final consumption, restriction of purchases could not interfere appreciably with their own consumption of milk. Yet, despite these strategic factors in their favor, they later found a worthy opponent in the Milk Producers' Association, an organization of some 16,000 dairymen, which was fairly successful in making them raise the price of milk.² With final consumers the situation is worse than it was with these distributors. To illustrate, suppose milk consumers wish to organize a buying monopoly. If they succeed in getting well organized, despite the fact that they are numerous and scattered, their only sure method of driving down the price is that of reducing their consumption. The force of their threat to restrict pur-

² Whatever their luck as a buying monopoly, the dealers in this area have long been a pretty good example of a selling monopoly. The situation has been complicated by the existence of three monopolies: the Pure Milk Association, the dealers, and the drivers' union. Sometimes they fight, and sometimes they co-operate, the consumers being injured by both the fighting and the co-operation.

chases is weakened because they cannot punish the seller without punishing themselves. It is different with the monopolistic seller. By using his weapon, restriction of output, he cannot lose much as a consumer, since he is only one of a large number of consumers, and he may gain a great deal by forcing up the price to all the other consumers. In this respect, a selling monopoly has the whip hand in bargaining with a buying monopoly.³

Two fears haunt the monopolistic seller above all others—the fear of competition, and the fear of public intervention. Monopolists dread popular clamor not so much because it may be the prelude to a buyers' strike as because it is likely to give politicians an attractive issue. Even a circumspect monopolist is not immune from this danger, and a callous one never knows just how far he walks from the valley of the shadow. History provides ample evidence of fierce public resentment against monopoly. And there are sound grounds for this resentment.

Objections to Monopoly

The case *for* monopoly runs substantially as follows. Monopoly makes possible a high degree of specialization. The subdivision of processes and operations in meatpacking is an oft-cited case. It realizes savings because it permits of buying and selling in large amounts. It makes for full utilization of by-products. Thus the packers have boasted that in the slaughtering of pigs "nothing is lost but the squeal." It leads to an advantageous location of plants, and, therefore, to the elimination of cross-freights. A monopoly can pool the best methods, technical knowledge, and so on, of all the firms collaborating to form it. With its large output and huge financial resources, a monopoly is in an excellent position to promote research and invention. A monopoly can avoid the duplication of plant, of distributive agencies, of advertising costs, and the like, which arises under competition. A monopoly can stabilize business by doing a better job of adjusting supply to demand than is likely to be done by competing concerns.

Although there is something in it, this case is far from being what it seems. The first six points are somewhat like lauding America because

³ To put this more formally: A small number of persons dealing with a large number is in a much better position to influence the distribution of the common income favorably to itself than is a large number dealing with a small number. The point will become clear if we imagine a buying monopoly composed of everybody in an economic society. Suppose this monopoly is buying bread. Obviously it cannot gain a *distributive* advantage by restricting its purchases of bread, since any redistribution which takes place must hurt some of the group as much as it helps others. If it "saves money" by restricting purchases, it merely decreases its total satisfactions by getting too little bread in proportion to other goods. But a single seller dealing with a large number of buyers can gain a distributive advantage by restricting sales.

it has soil, air, water, and able men. The advantages are not peculiar to the particular institution for which they are claimed. They are essentially the advantages of large-scale production, which is not dependent on the existence of monopoly. It is true that certain factors which make for extensive operations under one management often tend also to reduce the number of firms in an industry. Thus they encourage "monopolistic competition." And, since monopolistic competition is a sort of hybrid between competition and monopoly, it is arguable that the above claims are not wholly incorrect. But they do exaggerate.

There is also exaggeration in the claim that monopoly eliminates the wastes of duplicate facilities. Duplication is not all waste. The most economical plant is not indefinitely large. Neither is the most economical management. Monopolies themselves find it advantageous to have several plants, to decentralize management, and even to promote some competition among their different units. Not all selling costs are socially wasted in mere competition for customers. In part, such outlays serve to educate consumers in better ways of satisfying given wants, and in acquiring better wants. The claim that monopoly smoothes out business fluctuations is mostly false. The "sticky prices" supported by monopolies increase the violence with which other prices change, and add to the difficulty of effecting recovery from depressions. The case for monopoly is seen to be all the weaker when attention is turned from these misleading claims to certain positive evils of monopoly.

HIGH PRICES

Monopolies tend to promote and maintain high prices. The principle of the thing was outlined above. The facts correspond with the principle. After about 1879, when the Standard Oil Company had pretty well consolidated its control over the sale of the products refined from crude oil, the difference between the prices of crude and refined persistently increased. (There was heavy competition in the extraction of crude oil.) The prices of refined products did fall, but not so much as the price of crude. After the establishment of the sugar trust by the American Sugar Refining Company in 1887, the margin between the prices of raw and refined sugar widened. Later, as profitable prices drew independents into the field, the margin narrowed. Later still, when the trust had bought out competitors, it spread again. In short, the margin varied directly with the degree of monopolistic control. The results were similar for the trusts established over tobacco, steel, harvesters, and other products. Selling prices were characteristically much higher than cost of production.

In itself alone, a high price does not prove anything. A price is merely the monetary expression of an exchange value. The exchange value of one commodity against others cannot rise without a fall in the exchange values of the others against it. Thus, for all practical purposes, an increase in the price of one product means a decrease in the price of others. But it does not follow that the money of consumers goes as far as ever, or that the public is as well off as before. This is the case only on the understanding that the article in question still sells at close to its cost of production. A monopoly price, however, is decidedly above cost. From this fact come two unfortunate consequences.

HIGH PROFITS

One consequence is a high rate of return to the monopolist. Figured on any reasonable basis, the profits of the American Sugar Refining Company in the decade 1891-1900 were enormous. The returns of the Standard Oil Company were even more gratifying. From 1882 to 1906, the dividends came to 24 per cent of the capital stock. In the last ten years of this period they ran nearly 40 per cent. And, if we exclude from the concern's capital the surplus returns which were plowed back into the business, there was overcapitalization to the extent of some thirty million dollars in 1906. So well did the leading stockholders fare that they were able to make huge investments in railways, gas and electricity, steel, copper, glucose, banking, education, and religion. An organization with such far-flung interests, observes Eliot Jones,⁴ might well join Pistol in exclaiming:

"Why, then the world's mine oyster,
Which I with sword will open."

When it is remembered that such results are not limited to these particular monopolies, but are the logical outcome of successful monopolization everywhere, one serious objection to unregulated private monopoly becomes apparent. This objection is the uneven distribution of national wealth and income encouraged by monopoly. Such a distribution tends to withhold essentials from the many while giving luxuries to the few. And with it goes a concentration of power and prestige which is incompatible with democratic institutions.

⁴ See his *Trust Problem in the United States* (1924), pp. 83-91, 116-22, 154-64, 183-85, 210-13, 254-59, 260-82, on the prices and profits of various American trusts.

UNECONOMICAL PRODUCTION

The other unfortunate result of monopoly is bad economy in production. This comes about in several ways. The least obvious is the most important, and we shall consider it first.

Monopoly price depends on an uneconomically small output. To illustrate the meaning of the most economical output, take the case of sugar. Assuming the demand for sugar to be in no need of reform, the output should be pushed to just the point where the demand will carry it off the market at a price equal to cost. If there is any larger output, the price falls below the cost, and there is too much sugar in proportion to other products. If there is any smaller output, the price rises above the cost, and there is too little sugar in proportion to other products. But the main business of a monopoly in sugar is to hold the price above cost. The result is to waste society's productive power.

The extent of the waste depends on the use made of the resources which should be producing sugar but are prevented from doing so. Suppose the monopoly is able to adjust the amount of its resources, its "investment," to the output which it considers most profitable. That is to say, there is "restricted entry" of investment into the field. Then the resources shut out of the sugar industry spread themselves over other industries. In that case, there is the waste of producing too little sugar and too much of other things. But suppose that there is "free entry" of investment into the field—that the productive power is not cut down to match the restricted output. This is often the actual case.⁵ Then there is a double waste. Not only is there too little sugar produced, but the resources withheld from sugar production, instead of producing other things, lie completely idle.

The waste is really worse than this, because it is not fair to assume that the demand for sugar stands in no need of reform. Monopoly itself has a bad effect on demand schedules. It brings about an inequitable distribution of buying power, causing too large a demand for the things monopolists want to buy and too small a demand for the things wanted by people of small means. Sugar is an essential which absorbs a larger

⁵ Even in normal times, about one-fifth of the capacity of American industries is idle. A good illustration of the present point is seen in the German potash industry as it existed before the World War. The *cartel*, or pool, in revising allotments of quotas among its members, made allowance for the size of the facilities used by each producer in the immediately foregoing period. Thus producers tended to open up new mines for the purpose of increasing their quotas. This practice had the effect, not merely of causing a lot of investment to lie idle, but also of causing an unnecessarily large part of the actual output to come from high-cost mines. Under the dual Franco-German control established after the World War, many of the more inefficient mines have been abandoned. The basing of production quotas on capacity is a common practice among cartels.

part of the expenditures of the poor than of the rich. The sugar monopoly and other monopolies, by transferring purchasing power from the poor to monopolists, cause the demand for sugar and other essentials to be too small. This aggravates the restriction of the outputs of such commodities. Suppose, as Genesis tells us, that Joseph really did gather up "all the money that was found in the land of Egypt" for Pharaoh and himself. Then we can be fairly sure that in the future unusual stress was put on the production of the goods most prized by Joseph and Pharaoh, and that wheat production got less emphasis than before.

Monopoly wastes productive power in still another way. It removes one of the incentives to efficiency which exists in competitive enterprises. This is the fear of loss. Take, as a single illustration, the attitude of monopolists toward patents. Where an industry is so organized that vigorous competition exists among numerous firms, the use of a patented appliance will tend to spread throughout the industry as fast as the patent laws permit. In an effort to get ahead of its competitors, or at least to keep up with them, each firm is inclined to employ the improvement as soon as it can. Although the production of the appliance itself is monopolized as long as the patent right holds, the use of the appliance tends to spread rapidly. But the situation is different when one firm dominates the industry. In this case it is common for the dominant firm to buy up the patent for the purpose, not of using it, but of suppressing its use. The patent is bought to keep some new concern from getting hold of it and entering the field as an independent. And it is "put to sleep" in order that its buyer may avoid the trouble and uncertainty of changing familiar methods which, as long as the monopoly holds intact, are highly profitable. In this way patents have been held out of use by Bell Telephone, General Electric, American Tobacco, and other huge concerns enjoying monopolistic positions.⁶

Discrimination

So far it has been assumed that the monopolist does not discriminate by charging different buyers different prices for the same commodity. In practice, however, we find such forms of discrimination as the following.

⁶ The patent system, presumably designed to hasten the introduction of improvements, largely defeats its alleged purpose by arranging for the exclusive control over new appliances for a period of fourteen years. It might be better for the government itself to buy the patents and then secure general production and use of the appliances as rapidly as possible. It is unfortunate, too, that the interpretation of our patent laws should permit a patent right to be preserved whether it is used or not. Making the right contingent on its use would help the trouble referred to in the text above.

CLASS PRICE

It is not uncommon for sellers to charge the wealthier classes, or persons seeking to create the impression that they are well-to-do, more than they charge persons of low or moderate incomes for a given service. The service must be such, of course, that it cannot be resold by the poor to the rich, and that the rich cannot or will not masquerade as being poor for purposes of buying. In other words, supply and demand must not be transferable from one class (market) to the other. If either supply or demand is freely transferable, all units will sell at the same price. The necessary requirements are met by medical services; and therefore doctors can recoup from the rich what they lose by rendering free or low-price services to the poor. Unfortunately, however, this practice, based on one of the finest traditions of the medical profession, is not always observed. In the larger cities there is a growing tendency to overcharge the middle classes as well as the rich. The requirements are fairly well satisfied also by dress-circle and balcony seats in theaters. Here current ideas of social prestige have much to do with the non-transference of supply or demand.

DISCRIMINATION BETWEEN PRODUCTS

A monopoly which sells several products may get a fair return on all the products taken together but still discriminate by selling some products for less than cost and others for more. Railways used to do this habitually, and they still do it to some extent. For hauling certain low-grade commodities such as gravel, lumber, and coal, which have small value in proportion to weight and bulk, they charge less than cost; and they recoup on goods of high specific value, such as jewelry and silk, which they haul for more than cost. This practice, although it serves to build up regions distant from the points where the low-grade commodities originate, is uneconomical.

To illustrate the principle, suppose a railway carries both coal and silk between the same two points, charging less than cost for the coal traffic and more than cost for the silk traffic. Then there is an arbitrarily low price for delivered coal and an arbitrarily high price for delivered silk. The output of coal is pushed so far that it does not bring as much as its actual cost, and the output of silk is so restricted that it brings more than its actual cost. There is an uneconomically large output of coal, and an uneconomically small output of silk. It is fair to observe, however, that a *sudden* enforcement of rates equal to costs would occasion a great deal of social loss. What is needed is an orderly readjust-

ment, not a violent one. The same observation applies to the following cases of discrimination.

DISCRIMINATION BETWEEN LOCALITIES

A monopoly may discriminate by charging prices which are out of line with the relative costs of placing units of a given commodity at the disposal of different localities. A few leading cases will serve to illustrate the economics of this practice.

LONG AND SHORT HAULS

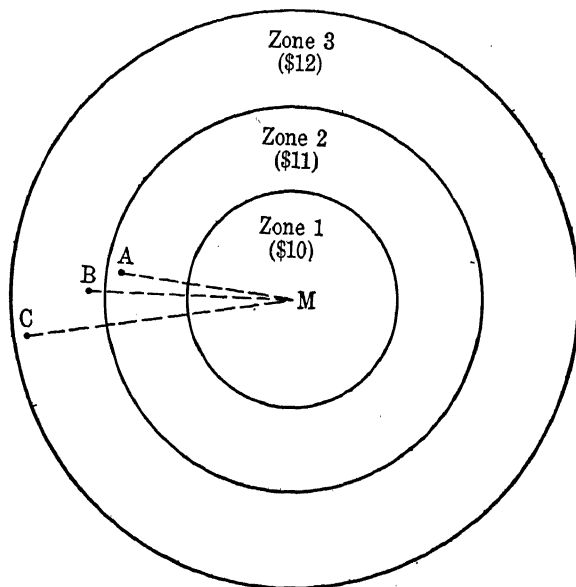
Before 1910 it had been a common practice with railways to charge less for hauling certain freight between two points than for hauling the same amount of the same thing a shorter distance over the same line in the same direction. To illustrate: A railway carries coal from *A* to *C* through an intermediate point, *B*. Between *A* and *C*, the long haul, the railway has to compete with another transportation agency, but it has no competition between *B* and *C*, the short haul. Per ton of coal, the actual cost of the long haul is \$1.00, while the cost of the short haul is \$.90. To get traffic away from its competitor, the road charges only \$.90 on the long haul. In other words, it takes this traffic at less than total cost because, owing to its big overhead costs, its loss would be still greater if it did not. Then it recoups its loss by charging \$1.00 for the short haul. Thus there is discrimination against coal producers at *B* in favor of those at *A*. At the destination point, *C*, coal from *A* sells at the same price as indistinguishable coal from *B*. Call the price \$10.00.

The result, as far as the *B* market is concerned, is this: The production of coal can be pushed only to the point where the cost is \$9.00 a ton, whereas it should be extended until the cost is \$9.10 a ton. As far as the *A* market is concerned, on the other hand, the result is this: The output is extended until the cost is \$9.10 a ton, whereas it should stop where the cost is \$9.00. As a consequence of the discrimination, the production of coal is uneconomically divided between the two localities.⁷ The basis of the trouble is a superfluity of transportation service from *A* to *C*. But, since our railway's competitor is presumably in an equally good position to discriminate against short-haul traffic, permitting the discrimination merely prevents the superfluity from disappearing.

⁷ Really, this is not all. The supply of coal at *C* is curtailed, and the price raised, because *B* cannot take advantage of its proximity; and industrial and domestic consumers of coal at *C* are correspondingly affected. In the example, a constant price is assumed for the sake of simplicity.

ZONING SYSTEMS

Local discrimination is also caused by the "zoning" system of prices. To take a simple case, a seller arranges zones according to distance from a point of production. The more remote the zone, the higher the price, but throughout any given zone the price is uniform to all buyers. Systems of this general type have been used in the sale of stoves, asphalt, salt, coffee, bath tubs, steel, and so on. The sort of discrimination caused can be seen in the diagram below. Monopolist M sells stoves to dealers at \$10 in Zone 1, at \$11 in Zone 2, and at \$12 in Zone 3. Notice the situation of Buyer B. He competes at a disadvantage with A, who should be on about even terms with him, and he is on an equality with C, over whom he should have a decided advantage. The distribution of sales



and resales is thrown arbitrarily out of line with the actual relative costs of getting the commodity to different points. The result is bad economy of the same kind caused by the long-and-short-haul situation outlined above. All prices should be on the FOB (freight on board) factory basis. That is, all buyers should pay the same factory price, and each buyer should further pay the actual cost of shipping the freight from the factory to him.

BASING-POINT SYSTEMS

A similar result is produced by "basing-point" systems such as have been used in the sale of lumber, cement, sugar, and steel. The United States Steel Corporation's "Pittsburgh plus" practice, especially as it existed before a Federal Trade Commission order of July 1924, will serve as an illustration. The buyer of steel, regardless of the location of the plant from which he bought any product save rails or pig iron, paid the Pittsburgh price plus the cost of shipping the article to him from Pittsburgh, the basing point. Steel products were turned out at, for example, Chicago at about the same cost as at Pittsburgh. Yet one who bought from Chicago would have to cover the basic cost plus the freight, not just from Chicago, but all the way from Pittsburgh.

The main effect can be seen by referring to the two-line diagram below, in which point *B* is midway between Chicago and Pittsburgh. The unit cost of a given steel product is assumed to be \$40 at both

	\$48		\$46		\$44		\$42		\$40
Chicago									Pittsburgh
	\$40		\$42				\$46		\$48

Pittsburgh and Chicago. Moving westward from Pittsburgh the freight cost on this product is \$2 to point *C*, \$4 to *B*, \$6 to *A*, and \$8 to Chicago. The "Pittsburgh plus" prices are thus \$40 at Pittsburgh, \$42 at *C*, and so on. Moving eastward from Chicago, the freight is \$2 to *A*, \$4 to *B*, and so on. A "Chicago plus" system would therefore make the prices run \$40 at Chicago, \$42 at *A*, and so on. Under the "Pittsburgh plus" system both Chicago and Pittsburgh must charge the prices indicated along the top line.

If both Chicago and Pittsburgh based their prices on costs, including freight to point of delivery, the result would be this: At *B*, Chicago and Pittsburgh would compete for sales on even terms; west of *B*, Chicago would have the advantage; and east of *B*, Pittsburgh would have the advantage. But the actual situation is this: East of *B*, Chicago will lose money by selling at "Pittsburgh plus" prices, while all the way from *B* to Chicago, and out of Chicago in other directions, Pittsburgh is on an equality with Chicago in price competition. The Steel Corporation, whose main plants were located at Pittsburgh, said that this helped Chicago producers by giving them profitable prices. On the same argu-

ment, however, Pittsburgh producers would have been helped by substituting "Chicago plus" for "Pittsburgh plus." Yet the gander did not crave the sauce recommended for the goose. In reality producers outside Pittsburgh were denied their geographical advantage. At the same time, inefficient producers were protected from the price competition of efficient producers. In both ways the cost of steel to consumers was increased.

DISCRIMINATION BETWEEN USES OF A PRODUCT

There is also price discrimination between different uses of a given commodity. Coal, gas, electricity, and even water, are sold at higher rates for domestic use than for industrial use. The same thing happens with milk, the price being higher when the milk is to be drunk than when it is to be used for making butter or condensed milk. Dr. A. R. Burns cites other interesting illustrations.⁸ For example, plate glass sells at higher rates, for a given amount of glass, in large pieces than in small pieces. The demand for the large pieces, which are used in store windows and the like, is more inelastic than the demand for the small. And, since small pieces cannot be converted into large, supply and demand are not transferable between the two markets. Before 1935, aluminum commanded a lower price in cable form than in ingot form, because aluminum cable had to compete with copper cable. To prevent transfer, buyers were pledged not to melt cable down. This type of discrimination causes an uneconomical distribution of the product among different uses.

"PERSONAL" DISCRIMINATION

"Personal" discrimination consists today mainly of price discrimination between firms. The rebates given by railways to the Standard Oil Company in the early 1870's represented a flagrant case. It is doubtless true that the large shipments of Standard could be hauled more cheaply, per ton-mile, than the smaller shipments of rivals; but the rebates were so great as to throw differences of freight charges out of all proportion to differences in cost. In the sale of manufactures, price discriminations are often made according to the positions occupied by different buyers in the trade. Thus, the price or trade-discount difference between wholesaler and retailer is greater than the cost difference. Chain stores and consumers' co-operatives, despite the fact that they buy in large lots, have been refused the full quantity discounts given to wholesalers. In

⁸ *The Decline of Competition* (1936), pp. 274-76. An exceptionally thorough discussion of the facts and principles of discrimination is contained in Chapters VI-VII of this work.

1915 the Cream of Wheat Company was upheld in court in practicing this sort of discrimination against the A. & P. Company. The National Biscuit Company in 1923, and the Loose-Wiles Biscuit Company in 1924, were similarly upheld in their refusal to treat co-operatives as favorably as chain stores. Apparently the sellers favor "regular" dealers because they fear that chain stores and co-operatives may become so powerful as to dictate prices or even enter the manufacturing field. The most important effect of such discrimination is to raise cost by preventing efficiency from determining the survival of firms.

CONCLUSION

In conclusion, let us briefly compare the results of discriminating monopoly with the results of simple monopoly. By discriminating monopoly we here mean the monopoly which charges different buyers different prices for the same commodity. In general, both output and monopoly gain are larger under discriminating monopoly than they would be under simple monopoly with respect to the same commodity. Average and marginal revenue are larger under discriminating monopoly. This follows from the nature of discrimination. Thus, the discriminating monopolist gets more per unit for 100 units than the simple monopolist does, and he gets more per unit for 200 units than the simple monopolist does, and so on. The reason is that the simple monopolist must accept a single price for whatever he sells, while the discriminating monopolist sells to different groups of buyers at different prices. The discriminating monopolist can sell high to buyers willing to pay high prices and *also* sell low to buyers who decline to buy except at low prices, while the simple monopolist, since he must sell at a single price, can secure a high price only by *refraining* from selling to low-price buyers. Consequently the discriminating monopolist has less incentive to restrict output and sales; and consequently, too, his monopoly gain is larger. As compared with simple monopoly, discriminating monopoly has a better effect on production but a worse effect on the personal distribution of income. As compared with competition, however, discriminating monopoly has a worse effect on production and a very much worse effect on the personal distribution of income.⁹

From the foregoing account it is clear that some strong form of control over the outputs, prices, and returns of monopolies is necessary.

⁹ The teacher, if not the student, may be interested in the possible case in which the output is more economical under discriminating monopoly than under competition. See, e.g., A. C. Pigou, *The Economics of Welfare*, Part II, the chapter on Discriminating Monopoly and the chapter on The Special Problem of Railway Rates; and Joan Robinson, *The Economics of Imperfect Competition*, 1933, pp. 203-204.

But other forms of "imperfect competition" have so much in common with monopoly that it will be better to consider them before investigating the principles of control.

PROBLEMS

1. A monopolist undertakes to sell at the most profitable price. But so does a seller who faces competition. Then what is the essential difference between the policies of the two?

2. "A monopolist charges the most he can get." Discuss.

3. Assume that a monopolized article is produced at constant cost and that the demand schedule is properly represented by a straight line. Use graphs to illustrate.

(a) Explain how the price is determined.

(b) Suppose, now, that competition would come in at a price slightly below the monopoly price which you have indicated. What does the monopolist do?

(c) Now suppose the monopolist begins to fear that popular clamor will lead to a boycott or public regulation. What does he do?

(d) Now suppose that public regulation shoves the price still a bit lower. What does the monopolist do about his output?

(e) Next the monopolist introduces improvements which lower his cost all along the line. What is the effect on output and price?

(f) Now the government imposes a tax equal to half the monopoly gain. What happens to output and price?

(g) Now the government repeals this tax and substitutes a tax of so much on every unit sold. What happens to output and price?

4. "Since an increase in the exchange value of one commodity is attended by a corresponding decrease in the exchange values of other commodities against the first, raising the price of a monopoly product merely lowers the prices of other products. Therefore monopoly is not harmful." Discuss.

5. Is it likely that a selling monopoly can be properly controlled by organizing a buying monopoly with respect to the commodity in question? Explain.

6. Explain the special evil of a monopoly which controls price without restricting the entry of productive resources into its field.

7. Assume that a producer can sell every single unit of his commodity in a market peculiar to itself. As to effects on output and profit, compare this situation with that of simple monopoly. With that of free competition.

8. Using railway practices to illustrate, explain the economic effects of commodity discrimination and local discrimination.

XV

PRICES UNDER MONOPOLISTIC COMPETITION

Two minds with but a single thought,
Two hearts that beat as one.

THROUGHOUT a large and growing sphere of industries there has developed a set of conditions which cannot be described accurately as either competition or monopoly. On the whole, the situation probably resembles monopoly more closely than it resembles competition; and yet in some important respects there is competition. This hybrid has come to be called "monopolistic competition." In a restricted sense the term refers to the sale of a commodity, to a large number of competing buyers, by a very small number of firms. This situation is sometimes called "oligopoly." In a broader sense, monopolistic competition refers also to several practices, such as price leadership and price stabilization, which are incompatible with the "full and free competition" of many sellers for customers. In either sense, however, it is associated closely with a decline in the number of firms in certain industries.

REASONS FOR DECLINE OF COMPETITION

The reasons for the decline of competition have been numerous.¹ The advantages of large-scale production have done something to it. Our corporation laws have done their bit by encouraging a separation of business management from ownership. Managers have been able to build up the size of firms, and reduce their number, by reinvesting surplus, merging companies, and promoting corporate combinations. Our patent laws have helped firms to positions of dominance in their

¹In its general pattern, the following discussion is a greatly simplified version of material appearing in the first five and the eighth chapters of A. R. Burns's *The Decline of Competition* (1936). For an analysis of prices under "duopoly," see Edward Chamberlin, *The Theory of Monopolistic Competition* (1933), pp. 30-55. For a full account of the separation of management from ownership in the corporation, see A. A. Berle and G. C. Means, *The Modern Corporation and Private Property* (1933).

industries by giving them exclusive control over improvements. This has happened in the production of sewing machines, aluminum, shoes, cans, cash registers, photographic materials, motion-picture equipment. Branding and advertising have, to some extent, the effect of turning a general commodity into separate commodities, each under the monopolistic control of a single seller. By forbidding out-and-out agreements among firms to control output and price, our antitrust laws have encouraged the formation of larger units. Sometimes the result has been the merging of firms by the purchase of property or stock. Sometimes it has been the domination by one huge concern of the smaller firms in the field, the present positions of the United States Steel Corporation and the International Harvester Company being examples.

In other cases, monopolies have been "dissolved" into fragments altogether too large in size and small in number to make free competition the probable outcome. For example, the cigarette trust was broken up, not into a large number of little producers, but into a "big four" comprised of American Tobacco (Lucky Strike), Liggett & Myers (Chesterfield), Reynolds (Camel), and Lorillard (Old Gold). Measures like the Webb-Pomerene Act of 1918, permitting producers to do to foreigners what they are not supposed to do to their fellow countrymen, have made it easier for sellers to get together in the home market. With the growth of ever more elaborate, specialized, and costly facilities of production, overhead cost has become an increasingly large part of total cost. Price cutting and the development of new products, for example, which shift patronage from firm to firm, have become more dangerous, and efforts to prevent them correspondingly more intense.

These are only the broader and relatively more important trends to be observed in industry. From even so brief a sketch it is apparent that they leave us somewhere between competition and monopoly. But we can get a better idea of their importance and scope by doing two things. The first is to take note of the general principles of price making under monopolistic competition. The second is to study the operation of these principles in specific settings. The settings consist of certain conditions and practices which prevail in industries where monopolistic competition is especially conspicuous.

General Principles

Any seller, no matter what the situation in which he finds himself, seeks the maximum gain from his business. The policy best designed to give him the maximum gain depends on the situation.

MONOPOLY

Suppose our seller is the sole seller of a product. Then the answer to the problem is found in the principles of monopoly price. Since he is the only producer, he can afford to restrict output, because, within certain limits, he is thus enabled to make the increase of price more than compensate for the loss of sales. To make his gain as large as possible, he must of course take into account the nature of his demand and cost schedules. But his cost schedule is the cost schedule for the industry, and the elasticity of demand for his output is the same thing as the elasticity of demand for the whole product. He need not consider what his policy will lead other sellers to do, for there are none. He is a Louis XIV: "The industry, it is he."

COMPETITION

Suppose, to take another case, that our seller is one of a large number of sellers, each accounting for only an insignificant fraction of the total output. As we have seen, each seller is led, by the extremely elastic demand for his output, to offer his output for sale at average cost of production. Acting as an individual, this is the most profitable thing for the seller to do. If he restricts his output, he cannot raise the price appreciably—not nearly enough to make up for his loss of sales. If, on the other hand, he offers to sell a bit below the general level, he can attract much patronage from all his rivals taken collectively—much more than enough to make up for his slight reduction of price, provided his price is still above his cost. Since every other seller acts, as an individual, in the same way, each tries to extend his output to the point where his average cost equals the price over which he exerts no appreciable control. The consequence of each seller's acting as an individual is that attempts to attract patronage by selling below the general level are a failure. But there is little that the individual can do about this. His policy is essentially the *effect* of the policies of all other sellers.

"OLIGOPOLY" ILLUSTRATED BY "DUOPOLY"

Now suppose, to take still another situation, that our seller is one of a very small number of sellers, each accounting for a large part of the total output. This is "oligopoly." To simplify the essential principle as much as possible, say that there are just two sellers. This is "duopoly." Call the sellers White and Black. Assume that they are on an equal footing in every respect. They produce identical commodities, say cigarettes, and at identical unit costs, which we will suppose to be the same as they would be if the two firms combined into one. Each seller

seeks the highest possible net income. The question is what policy will yield this maximum. Take it from the point of view of White. What policy will be most profitable to White depends on what Black is going to do. But White need not fall back on mere guesswork. He knows that his policy will affect Black's policy, which, in turn, will affect White's profits. Even if the two producers do not talk matters over and reach a direct agreement, the situation will tend to work out as follows:

First, White and Black will sell at the same price. Each must keep his price as low as the other's in order to avoid losing a large amount of business. Second, the single price will give each seller an equally good chance at the total sales. It is reasonable to suppose, therefore, that the total sales will be divided equally between the two sellers. Third, the output of White and Black together will be equal to the output that would be produced if the two clubbed together to form a monopoly. Since each knows that he will be affected by the effect of his own policy on his rival's policy, each acts in his own best interests by producing just half the same output that would yield the maximum gain if there were a monopoly.

LEADING PRINCIPLE

Now we must be careful to notice what this greatly oversimplified case does and does not imply. The leading general principle to be drawn from it may be stated as follows: *Other things being equal, fewness of firms makes for monopolistic results.* Where the number of sellers is very small, the policy of any given seller is likely to exert a strong effect on the policies of the other sellers, and each seller must act on the knowledge that this is so. But it is not implied that, in actual practice, there can be no monopolistic competition unless the number of sellers is extremely small. On the contrary, monopolistic competition in the sale of a commodity may be found lying anywhere between two extremes—the extreme of outright monopoly, where there is a single seller without rivals, and the extreme of free competition, where the sellers are so numerous that the policy of any one given seller has no appreciable effect on rivals. Further, “other things” are not really “equal.” Instead, our simplified case is open to qualifications so important that it is fair to state them as matters of general principle. At least the following qualifications should be noted:

QUALIFICATIONS

First, even firms which are very few in number, if they do not enter into some agreement, are likely to be so uncertain about one another's

policies that the results of outright monopoly will not be simulated at all closely. For example, any particular seller will be in doubt about the methods which rivals use in figuring costs and income.

Second, firms will differ as to size, and size will affect costs of production. Thus a large firm may be able to impose a price policy on its rivals because, owing to its low costs, it can undersell any rival refusing to fall in line with its ideas.

Third, the sellers, although comparatively small in number, may find it difficult to keep "interlopers" out of the field. The general situation may be that which was discussed in Chapter XIV in connection with "simple monopoly and free entry of resources." That is to say, investment may keep coming into the field until, despite output restriction and price upping, it is no longer possible to get more than the general rate of return on the whole investment, including both used and unused capacity. If so, extremely wasteful and costly production will be found side by side with a fair rate of return. Or a high cost may go with a moderate return because heavy outlays are made on competitive selling. Advertising, for instance, may make costs higher than they would be under conditions of free competition.

Fourth, a producer, although possessing a "monopoly" over a "product," may have to compete with other "products" so similar in character (at least in the minds of buyers) that he might almost as well be just one of a large number of freely competing sellers. Branded goods, such as cigarettes under different labels, corn flakes under different labels, and the like, give us this situation when the number of brands of a given general type of commodity is large. Like the demand for the output of the individual producer under freely competitive conditions, the demand for any given brand is likely to be very elastic. To be sure, brands may be sufficiently differentiated, by differences in such matters as packages and advertising, that the demand for a given brand is not so elastic as the demand for one farmer's wheat. "Product differentiation," to which we shall return later under the heading of Nonprice Competition, goes to show that the difference between "competition" and "monopoly" is a difference of degree. There is no hard and fast line between the two.

Finally, the reader should be on guard against jumping to the conclusion that sellers are necessarily "sinful" because they do not wish to be engaged at all times in keeping prices clear down to average costs of production. When it is remembered that overhead costs are much more important than they used to be, and that demand fluctuates a great

deal, it will be understood that sellers have reason to dread a price war and to take measures against its occurrence.

The object of the discussions which follow is to indicate how the prices and outputs of sellers are influenced, not merely by the fewness of firms in a field, but also by certain arrangements which yield results similar to the consequences of control by a very small number of firms. Here we encounter trade associations, price leadership, organized sharing of the market, the organized stabilization of individual prices. As a more or less mitigating factor, we find nonprice competition.

Trade Associations

Competition has been restrained by the "trade association," or organization of producers and sellers of a given commodity or group of related commodities.

FUNCTIONS

Springing up after the Civil War, the trade association has had to do with certain functions which can be best discharged on a large scale. Included in such functions are research with respect to methods of production and sale; the maintenance of congenial relations with the public and with railways; insurance; securing information on the credit standing of buyers; and so on. The main function is supposed to be that of providing information to members. Broadly, the legal theory is that members of the association may co-operate for purposes of mutual enlightenment and fair play, but not for purposes of restricting output and raising prices. The association may standardize accounting practices, methods of calculating costs, and the like. It may also assemble and disperse among its members statistics relating to such matters as existing output, productive capacity, inventories, unfilled orders, and selling prices. But collective information is not to be used as the basis of a concerted policy with respect to output and price, or for the coercion of firms. Except during two brief periods, 1917-18 and 1933-35, this has been the theory. But informed and fair competition has not been the only result of the trade association.

OPEN PRICES

As a rule, the information supplied by the association to its members is not supposed to be identified. Thus, it tells that so-and-so much is produced, and it may relate that such-and-such methods are used, but it is not likely to say who uses what method, or to show the distribution of output among different methods. The idea is to protect members in their

secrets and shield them from pressure. But it is precisely the disclosure of identity which is required to foster competition in the improvement of methods. Unless producers know who uses a given method, they do not know where to go to find out about it and make definite comparisons with their own methods. Similarly, associations are not supposed to reveal the prices of specific members against the will of the members. However, it is common for the members themselves to disclose the information freely. In other words, there is an "open-price" policy.

Now an open-price system under which sellers acted independently about prices would doubtless foster competition. Under competition, although at any *particular time* the tendency is for all sellers to observe a uniform price in spite of cost differences, the *long-run* tendency is to eliminate firms and methods of high cost. Thus the long-run tendency is to lower an industry's cost schedule *as a whole*. In determining a uniform price under the open-price system, on the other hand, sellers fear to adjust their offers to their own cost conditions, lest other sellers gang up on them. In short, they fear to lend a hand in lowering the general level of supply prices by engaging in price competition. Thus the tendency is to stabilize the price in the sense of preventing reductions. A common excuse for open prices is "phantom competition." To illustrate—a deceitful buyer says to a dealer: "What, a dollar twenty-five! Why, So-and-So offered it to me for a dollar fifteen!" Then the alarmed dealer meets the price which So-and-So never quoted in the first place. Under the open-price system buyers cannot practice such deceit. Dealers may or may not be badly frightened by this phantom. But, even if they are, open prices should not be used to stabilize prices at so high a level as to shelter inefficient firms. Perhaps the best system would combine open prices with protection against retaliation for arriving at prices independently. Certainly the existing arrangement is a far cry from free competition.

UNFAIR COMPETITION

The record is spotty also with respect to "unfair competition." Undoubtedly it is a bad thing for sales to be distributed among sellers, not according to price and quality, but according to relative skill in misbranding, stealing or imitating the brands of competitors, defaming competitors and their products, selling below costs, bribing buyers, and the like. And surely it was a laudable thing for competitors to assemble in "trade practice conferences," under the aegis of the Federal Trade Commission, to curb such practices. But these conferences, which promised so much in the 1920's, fell on evil days in the early 1930's.

"Unfair competition" began to refer mostly to price cutting, even when the sellers who were charged with cutting had low costs to match their low prices. So far did the Sugar Institute go with the standardization of prices and sales practices that, according to the Attorney General, the buyer had nothing left to decide except how much he would buy. Thus does the crusade against unfairness degenerate into the unfairness of requiring prices which are not only equal but are also held on a level with the costs of relatively inefficient firms.

LIMITATION OF OUTPUT

With the tendency toward stabilization of prices at high levels there has been a corresponding tendency to limit output. Various methods are used to adjust output so that the desired price can be maintained. Statistics are put in such a form as to suggest the ease of overdoing production. Figures on average prices are exaggerated by omitting from the records certain sales made at low prices, thus leaving the impression that production must be guarded carefully in order to sustain the high prices. The circulation of information on prices is sometimes suspended when it is feared that knowledge of the facts might stimulate production. Pressure is applied at meetings, and by means of bulletins. Trade associations, notably in hardwood lumber and cotton textiles, have even directly urged their members to curtail production, and have tried to limit both investment in plant and hours of plant operation.

On the whole, trade associations have made collective use of collective information, with results lying rather on the monopoly side of monopolistic competition. Restriction of output and artificially high prices are common. Under the shelter of high prices are found much inefficient production, a great deal of unused capacity, and discrimination. In these respects labor unions bear such a close resemblance to trade associations that it would be substantially correct to repeat this paragraph with the substitution of "unions" for "associations."

Price Leadership

Competition has been restrained by "price leadership," which consists in the adoption, by most of the sellers of a given product, of the price announced by one firm. The leader is typically the most powerful firm in the field. Behind price leadership we usually find big firms, overhead costs which are high in proportion to variable costs, and fluctuations in demand, or in the technique of production, or in both. The bigness of firms has two general results. First, it tends to create a condition of "oligopoly"—a situation in which the policy of any given seller exerts a

strong effect on the policies of other sellers. Second, and what conduces still more strongly to concerted action, it simplifies the administrative problem of co-operating in a common policy. Thus the bigness of firms alone provides an incentive for getting together. The incentive is made all the greater by a combination of large overhead costs and fluctuations of demand and supply. The larger the overhead costs, in proportion to variable costs, the more difficult it is to reduce the output when, owing to changes in the conditions of supply and demand, a reduction is needed.

EXAMPLES

In the steel industry, the members of the American Iron and Steel Institute have followed pretty closely the prices announced by the United States Steel Corporation, which has used exhortation and threats to hold its followers in line. However, the leadership has not extended consistently to all steel products. In 1934 it was found that some firms led for certain products and others for others. In the petroleum industry, the American Petroleum Institute has denied, while the Federal Trade Commission has asserted, that in setting the prices of crude products leadership has been taken by the Standard Oil companies which succeeded the oil trust after 1911. Financial strength and the interlocking of stockholders have given these companies some power to take the lead, but the leadership has not been complete or continuous. In the last ten years, apparently, price competition has been rather keen, with the Standard concerns being unable to coerce other sellers or even to avoid some competition among themselves.

In farm machinery, the International Harvester Company has enjoyed a strategic position because of its low manufacturing costs. After 1911, however, International's percentage of the total sales fell off, and the present extent of price leadership in the field is uncertain. In anthracite coal, the prices of the "big eight" railroad-controlled companies were fairly uniform from 1902 to 1920, with the Philadelphia & Reading serving as leader. Although prices were less uniform among the independents, the "big eight" controlled three-fourths of the recoverable supply of anthracite. To varying degrees, price leadership prevails also in the sale of such commodities as paper, corn products, fertilizers, cement, sugar, crackers, nonferrous metals, salmon, packed meats, and industrial alcohol.

EFFECTS

In *quantity*, the effects of price leadership are uncertain, because it is so hard to ascertain the extent and degree of leadership. The leader may weaken its position just because it takes the lead. Such is the case

when the leader, after initiating a price increase, is followed sluggishly by other firms, or when the leader is seriously lacking in power to prevent other firms from initiating price reductions which it is hesitant to meet. The Standard Oil companies and other alleged leaders probably have lost a good deal of business in this way. What this amounts to is weak leadership. Limited loyalty to leaders goes far to explain the use of tighter methods of control, such as the market sharing and price stabilization discussed below.

In *kind*, the results of leadership present a clearer case. The logical outcome is not mere uniformity of price. Subject to the qualifications which were discussed in the section on "General Principles," the logical outcome is monopoly price as well, because a monopoly price is best designed to give all the firms the maximum rate of return on their investment. The immediate result of beginning to follow a leader in this policy, where no leader has been followed before, is to restrict output, thus leaving a surplus of unused capacity in the field. If they could, the firms would now transfer the idle investment to other fields, where it would yield the going rate of return. Frequently, however, they cannot do this, because they are unable to keep investment from flowing into the industry as long as the rate of return is above the general level. Where there is strong price leadership and "free entry" of investment, we should expect to find the following conditions:

First, there will be a monopolistic price. It will be high enough to yield normal returns to inefficient firms and abnormally big returns to efficient firms. Second, actual output will be decidedly smaller than it would be under free competition. Third, there will be a great deal of unused capacity. Fourth, in order to keep output down, there will probably be some arrangement for sharing the total market among the firms. Although price leadership is not necessarily the sole explanation, it is interesting to note that these conditions are actually found where leadership is strong. In the steel industry, for example, comfortable returns have persisted side by side with enormous idle capacity. In the cement industry, nearly 35 per cent of the capacity lay idle in 1929, before the depression set in. Yet there was a profit on the whole investment, unused capacity and all. This is sufficient evidence of prices far exceeding anything that could prevail under competitive conditions.

Sharing the Market

Different firms in an industry often share the market in the sense that each refrains from competing for a larger share of the total sales. Before about 1900, when pooling began to be subjected to vigorous legal

attack, it was common to do this by direct agreements to divide territories, establish production quotas, allot sales quotas, limit the utilization of plant, and the like. Since that time, other methods have been used.

METHODS

A gentlemanly understanding to treat price cutting as something which is "unconventional" among respectable sellers seems to have served the meatpackers and the anthracite dealers. The packers have shared the market by dividing purchases of livestock in a pattern so very stable as to make it highly unlikely that they have really competed. From 1913 to 1917 the five big packers divided their purchases in such a way that, no matter how big or little the total volume of business might be, Swift got about 34 per cent, Armour 27 per cent, Morris 18 per cent, Wilson 11 per cent, and Cudahy 10 per cent. The fluctuation of the percentages was amazingly small. Throughout the five years, Swift's extreme range ran from 33.90 per cent to 35.07 per cent; Armour's, from 26.96 per cent to 27.57 per cent; and so on. In the anthracite industry the big producers share the market by maintaining stable proportions in the distribution of traffic among the railway companies which indirectly control the coal-producing companies. Another market-sharing device consists in "reciprocal dealing." To illustrate, railways distribute their purchases of steel rails, cement, and coal according to the way in which the producers of such products divide their freight business among the carriers.

EFFECTS

Market sharing tends to produce monopolistic results. Where it is understood that price reduction is not to increase anybody's share of the total business, it is hard to escape the conclusion that the gentlemen entering into the understanding will find it agreeable to follow the price policy which is most lucrative to the whole group. Assuming costs to be substantially equal from one producer to another, the policy will probably be one of monopoly price. The price will tend to rise when demand or cost schedules rise, fall when they fall. (In so far as costs differ from firm to firm, market sharing makes for high cost, because low-cost firms, which otherwise would be likely to expand most rapidly, are held down to the general tempo of expansion.)

Further than this, the results depend on the nature of "potential competition." If interlopers cannot be kept out, but can be brought under the sharing arrangement, the sharing will amount to a monopoly which does not restrict investment but does keep a lot of capacity out of use. In practice, sharing has been associated with industries comprised mainly

of a small number of large firms. Under these circumstances, the chances for bringing "competitors" under the sharing plan look good. Yet the outcome depends on the ease with which outsiders can come in, and it is hard to tell what will happen in the long run. The big anthracite dealers, enjoying control over three-fourths of the natural resources, have fared fairly well. The big packers have encountered more difficulty. Finding the rising chain stores unwilling to "play ball," they have gradually lost ground to large and small competitors.

Stabilizing Individual Prices

Under competitive conditions, individual prices continually fluctuate in response to changes of demand and output. The response is not instantaneous, of course, but it does occur at comparatively short intervals. This is not so where an industry has a small number of firms, a price leader, an open-price system, or any other convenient instrument for controlling price. It could be so. A price stabilizer does not have to be used just because it is handy. But it is not so. Where they can, sellers reduce not only the frequency but also the extent of price fluctuations. Instead of letting output and demand determine the price at all times, they stabilize the price for more or less extended periods and let it determine the amount demanded and produced. They may do it merely because it relieves them of the administrative work involved in changing their prices, or because they do not know what the most profitable price is. They may do it because stabilization simplifies the task of policing price leadership and enforcing certain agreements. Stronger reasons are to be found in the fear of cutthroat competition, or in the belief that there is an inelastic demand which justifies them in sticking to a high price. In any case, stabilization has become a conspicuous feature of the modern price system. Where it means merely a reduction in the *frequency* of price change, it is not necessarily open to condemnation. For example, automobile manufacturers cannot be expected to revise prices every week, much less every day and hour. But the effect is unfortunate when prices are stabilized over long periods and in the face of great changes of demand or cost.

METHODS

Stabilization is brought about by the development of *conventionalized selling practices*. Long-term contracts, such as are used in the sale of crude oil, steel rails, and newsprint and book paper, have this effect. Sellers encourage buyers to enter into these contracts by guaranteeing the buyers against price declines—that is, by committing themselves to

apply later price reduction to deliveries already made under contract. There is also the device of setting prices for seasons in the sale of oil, automobiles, anthracite, farm implements, tin plate, canned goods, dress goods, woolen fabrics, beet pulp. And, without regard to seasons, prices are set for considerable periods in the sale of such products as branded goods, drugs, bread, sugar, oil, and gasoline. Mere smallness in the number of firms in an industry facilitates price stabilization. Instances appear in the sale of rayon, automobile tires, cigarettes, shoe machinery. They are perhaps even more notable in sewing machines, dominated by one large concern; in nickel, by one; in aluminum, by one; in sulphur, by two; in sewing thread, by three. The open-price policy often pursued by trade associations makes for stability by discouraging price cutting.

Price leadership has a similar result because, in order to keep the relations between leaders and followers on a secure footing, it is necessary to avoid frequent price changes. Under the influence of leadership, the prices of steel products have displayed remarkable stability. This has been especially true of the price of steel rails. From 1901 to 1916, the price stood constantly at \$28 a ton; and, from 1922 to 1932, at \$43 a ton. Price leadership has been strongly felt also in other fields. In the petroleum industry the prices of fuel oil and other products sometimes stand steady for months at a time. Since 1927, the prices of agricultural implements have been noticeably more stable than wholesale prices in general. Anthracite prices, although modified by seasonal fluctuations, have been more stable than demand or cost of production. Stabilization has been at least appreciable in the sale of corn products, crackers, newsprint, glass, and cement. Thus a great many prices are "sticky," failing to respond readily to changes in cost or demand. It remains to note the economic effects.

EFFECTS

Price stabilization would contain much virtue if it were mainly a matter of preventing indiscriminate price slashing, or of securing an orderly readjustment of prices to changes of demand and cost. But stabilization does not stop here or even close to here. It has become largely a matter of maintaining prices in the face of decreased demand and decreased cost.

In short periods, such as a season or a few months, this makes for restriction of output and for idle capacity. In periods long enough to take in cyclical depressions, the consequences are still more serious. The stabilization of price destabilizes output. When the price does not fall with a radical decline of demand, the output must be decreased violently.

Since the prices of many goods used in producing other goods are stabilized, economic activity as a whole is upset. Notice the prevailing character of the industries in which price stabilization is most conspicuous. Although the prices of branded goods are pretty stable, these industries typically turn out *production* goods—farm implements, anthracite, tin plate, cement, crude oil, steel rails, newsprint, book paper, sulphur, shoe machinery. The buyers of these goods, not finding the prices reduced, are restrained from lowering their own prices, and their sales fall off correspondingly.² In an effort to shave down their costs and meet declining sales, they slash wages and lay off employees. Or, if unionized wages also refuse to budge, employers lay off all the more workers. Depression is thus intensified and prolonged with the little producers and laborers suffering especially severe punishment.

Price stabilization is also ill-mated with cost-reducing improvements. From 1923 to 1929, when improvements increased our country's real income nearly 25 per cent, stable prices and declining costs swelled business profits. The surplus profits were largely reinvested by the industries making them. But price stabilization itself had the effect of restricting the demand for the goods produced with the additional investment. Perhaps this wrought no great harm as long as business was brisk. Under anything like normal conditions, our industrial giants manage to get along nicely in spite of an astonishing amount of idle capacity. By 1929 over a third of the capacity of the cement industry was unused. In 1934, the stabilized price of steel products would have made the operation of plants profitable at anything over half their capacity. But the high prices, together with the abnormally low demand, so restricted sales that operations had to be cut down to much less than half capacity—even as low as 15 per cent of capacity early in 1933. Thus price stabilization played no small part in creating top-heavy investments which greatly aggravated the depression.

Nonprice Competition

So far, we have been dealing with a number of methods of taming price competition. But there are other ways of competing for a market besides that of reducing the price of an article. Joseph Chamberlain, who later became one of Britain's foremost statesmen, found this out when he

² But only in so far as they cannot find satisfactory substitutes for the high-priced materials. To illustrate, early in the 1920's the Aluminum Company advanced prices seven times in three years. But, as monel, stainless steel, and other materials could be used as substitutes, the amount of aluminum per automobile dropped from about 120 pounds in 1920 to 40 pounds in 1925. Later the company put through a series of price reductions, with the result that 1937 sales of aluminum were double those of 1925.

was trying to sell wood-screws in the French market. The product was good, and the price was right, but it would not go. The trouble lay in the fact that he was not using the metric measurement, and the color and size of packages, which were conventional in France. When he had corrected these shortcomings, his sales in France mounted rapidly.

NATURE

Under some circumstances, the suppression of price competition is likely to encourage competition in advertising, service, and the like. This is not true where price competition is subdued by market sharing, which is a device tending to discourage competition of any sort at all. But it is often true where price competition is arrested by price leadership or price stabilization. No doubt nonprice competition would be restricted as much as price competition if its results were equally obvious and if it were no harder to handle. As matters actually stand, however, nonprice competition is not regarded as being so cutthroat (unethical, destructive, excessive, wildcat) as price competition. If it is not liked, it is at least tolerated by the written and unwritten rules of the game. And so, with more or less moderation, the different firms in a given industry go ahead and practice it. Each tries to raise the demand schedule for its particular version of the general product. Possibly it can go so far as to make its demand schedule distinctly less elastic at the same time that it is raised. We are now concerned with the consequences.

GENERAL EFFECTS

Taking a small number of sellers (there would be heavy *price* competition if the number were large), it is reasonable to draw certain general conclusions—conclusions which do not depend on the particular form assumed by the nonprice competition. If any seller succeeds in increasing his demand greatly, he will impose a distinct hardship on the other sellers, each of whom will lose a substantial quantity of sales. If he succeeds also in making his demand much more inelastic than before, he will make matters all the better for himself and the worse for the others. Certainly if he does both—and in practice the two things can hardly be separated—he will put the rest in such a position that they will do something about it. They might go after him with price reductions. What usually happens, though, is that they respond by entering the game of nonprice competition themselves.

It might seem that any given seller, being able to foresee this result, would refrain from nonprice competition in the first place. If such were the case, then the principles of oligopoly would not be changed by intro-

ducing the fact that demand and costs can be changed by using nonprice devices to puff sales. All the sellers would simply get around to using whatever policy made for the maximum gain of the whole group taken collectively. For instance, they would advertise wherever advertisement increased the collective income more than the collective cost, and nowhere else. But this is not the typical outcome. Probably the reason is that nonprice competition is somewhat obscure in its results, and so complex as to be very hard to control. To be sure, some efforts are made to restrain it. In conjunction with the Federal Trade Commission, trade associations try to curb methods which are first cousins to lying, libel, and theft. Efforts are also made to subdue nonprice competition by standardizing products. Still, it continues vigorously on a large scale. Considered very broadly, it steps into the gap left by the withdrawal of price competition. In so far as it is less effective than price competition, it relieves investors of the risk of great and sudden changes in demand. Any further conclusions must be related to particular forms of nonprice competition. The chief forms are sales promotion, competition in quality and service, and competition in style. It will suffice to consider the first two, since competition in style is largely in the nature of a hybrid between them.

EFFECTS OF PARTICULAR FORMS

Suppose a seller, although keeping to the same price which rivals charge for a product, improves the product or the services going with it. The effect *tends* to be the same as though the quality and service had been let alone while the price was lowered. But there is the important difference that buyers have a more difficult decision to make. As a rule, they respond less readily to improvement of quality than to reduction of price, because the former change is not so simple and obvious as the latter. The rivals of a seller who improves quality respond even somewhat more slowly than the buyers do, since it always takes time to be convinced of the effect and generally costs something to make a rival improvement.

A modest but clear illustration of the possibilities is provided by what happened to coffee in a small college town. The restaurant business had long been subject to monopolistic competition in which monopoly was much more conspicuous than competition. Under these conditions the quality of coffee was such as to recall somebody's argument for capital punishment: "It was good enough for Father and it's good enough for me." Then a newcomer began to sell better coffee at the customary price of five cents a cup. Yet it was nearly a month before the

community showed enough awareness of the change to occasion any serious disturbance of the peace, and nearly another month before a single rival imitated the newcomer's technique. When it is remembered that coffee is more easily judged than most commodities, and that news gets around faster in villages than in cities, it will be seen that changes in quality exert their effects sluggishly. In the short run, the difficulty of judging changes in quality may cause buyers to distribute their purchases more or less uneconomically among different qualities. In the long run, buyers usually benefit by quality competition. However, the competition may "go into reverse," some sellers lowering quality in order to reduce cost instead of raising it to increase sales. Indeed, the newcomer of the foregoing illustration eventually reduced the size of his coffee cups, and there was also a noticeable reduction in the ratio of coffee to water.

Sales promotion implies increased expenditures on such items as advertising, salesmen, free samples, and prizes. Once one seller has embarked on promotion, rivals must presently follow suit. For the long run, it is fair to assume that the rivals hit on about equally effective and costly methods of promotion. A large and prosperous class of sales promoters is built up. Their stipends, as well as other outlays on promotion, go into the costs of products and are paid by buyers. The main question is whether the buyers get their money's worth.

At least some of the cost of promotion goes for education. Consumers cannot satisfy existing wants efficiently unless they can find out about different products and make comparisons. They are also handicapped in developing better wants if they have no convenient means of learning about new products. On the other hand, sales promotion uses up a great deal of resources in spreading misinformation. "Let there be darkness," says the promoter; and he proceeds to create distinctions without a difference, or to open up pocketbooks for things which buyers never needed, and did not even want until they fell under the spell. Besides, no ordinary human being can buy more than a small fraction of all the things which the followers of Ananias assure him are indispensable, and going without "indispensables" is itself no mean hardship. If competitive misrepresentation is merely "unsuccessful"—that is, if the efforts of the competitors cancel out, or if the intended victims become too sophisticated to be deceived—then it simply wastes the resources which are devoted to it. If it draws patronage to one product from another equally good one, the result is much the same. But if it weakens more wholesome wants, including the desire for truthfulness and for sober uses of leisure time, then a decline in the general level of culture must be added

to its other costs. On the whole, we are probably treating the great institution of sales promotion fairly if we pronounce it "very unsatisfactory."

Conclusions

Most of the real competition of today, as well as most of the real monopoly, is monopolistic competition of one degree or another. In other words, "monopolistic competition" is a general term which refers to a position somewhere between pure competition and pure monopoly. The smaller the number of firms in an industry, and the greater the dominance of some leader, the closer we come to the logical results of pure monopoly. The more numerous the firms, and the more nearly equal they are, the more nearly we approach the logical results of pure competition. The question is not whether monopolistic competition is the order of the day, for it always was the order of the day. The question is how far we have gone toward monopoly in particular industries, and what the direction of the trend is throughout industry at large.

As for competition, it is too early to say:

Thus Freedom now so seldom wakes
The only throb she gives
Is when some heart indignant breaks,
To show that still she lives.

Of the ninety-odd "giant" firms of today, each valued at over \$90,000,000, all save possibly the Aluminum Company of America and the United Shoe Machinery Corporation have rivals in their fields. In agriculture, still the largest single industry of our country, we find a huge number of sellers whose co-operation is severely limited. In producers' markets, where production goods as well as consumption goods are sold, the fact that business is transacted in large lots by specialists makes for careful attention to matters of quality and price. Even in consumers' markets, where dealings are confined to consumption goods, buyers are by no means wholly asleep or helpless. Many buyers "shop around," and, at least indirectly, play off one seller against another. Automobiles, and mail-order houses and departments, for example, expand the "shopping" area. It is true that the pressure exerted by alert buyers may not be enough by itself. But often it does not need to be. Dealers are tempted to enter territories where returns are high. It was largely the good time being enjoyed by local dealers which gave chain stores their chance.

Yet the foregoing account must have suggested how strongly competition is qualified in many and important fields. To make just one addition to the already formidable list, consider banking. In the field of

investment banking, it is old news that the tradition of "live and let live" prevailing among a few large firms has proved equal to the task of subduing "excessive" competition. But in commercial banking, too, competition is decidedly limited.³

Nearly half the banking resources of our country are controlled by 1 per cent of our banks. And, although this situation relates mostly to the big financial centers, "the American way of life" is suspiciously similar among the commercial bankers of our ordinary cities and towns. In most places the number of banks is very small. Of all the towns and cities having banks, nearly three-fourths have only one bank, over 18 per cent more have no more than two, and only 3 per cent more than three. Certain patrons stick to a given bank because it enjoys high prestige in their eyes, or because they find it too inconvenient to go elsewhere, or because they would receive worse terms at another bank where their credit standing is not so well known. This tends to make the demand for the bank's services inelastic. To avoid "senseless" competition, bankers also work together. They make telling use of their trade association, the clearing house. Here they deal, not only in checks and drafts, but also in arrangements to prevent customers from shopping around. Chandler quotes from a Missouri banker the following praise of the clearing house: "We find, also, it is creating this spirit of co-operation among the banks in our county and the tendency is for the bankers, if a man comes in from another bank, to send him back to his own bank and tell him that is the place to borrow his money and to do his business."⁴ And the same writer observes: "In many areas, as one banker has happily stated, competition is now carried on among the banks in a fine spirit of co-operation."

Free competition, if we had it, and if the personal distribution of purchasing power were all right, and if people wanted what was best for them, would presumably maintain the right relative outputs of different products. Monopolistic competition, which we do have, and which swerves far away from competition in the direction of monopoly, cannot be expected to yield even approximately such results. As monopoly, in one degree or another, becomes more pervasive, the probable results are much different than they would be if we had only a few little islands of monopoly in a great sea of competition. To illustrate, if only one industry were monopolized, and all the rest were competitive, there would at least be a *determinate* result. In that case there would at least be a

³ For an excellent summary of the situation, see Lester V. Chandler, "Monopolistic Elements in Commercial Banking," *The Journal of Political Economy*, XLVI, No. 1 (February, 1938), 1-22.

⁴ *Ibid.*

strong tendency toward a definite *equilibrium* of outputs and prices. The exclusion of certain productive power from the monopoly field would strongly affect the output and price of the monopoly product, while the use of this productive power by a large number of competitive industries would have very little effect on the output and price of any particular competitive product. A *society* of monopolies, on the other hand, does not lead to any determinate result, any definite equilibrium, unless all the monopolies themselves are subject to control by some one central authority. What it does lead to is somewhat the same sort of anarchy which we find in international relations. For competition in efficiency and service it substitutes "power politics." It is characterized by diplomacy, pressure, coercion, attempts to capture the power to make laws—by all the familiar policies associated with the "ethics" of power.

If the public interest is the object, matters cannot simply be let alone, in the sense that firms and collections of firms shall go ahead much as usual under the existing rules of the game. Some strong form of public intervention is essential. In the next four chapters attention is centered on leading forms and principles of public control.

PROBLEMS

1. What is the meaning of "monopolistic competition"? Explain why the category of practices embraced in this concept is a very broad one, extending almost all the way from "competition" at one extreme to "monopoly" at the other.

2. Assume that, under monopoly, 1,000 packages of cigarettes a day would be produced at a cost of 10 cents a package and sold at 20 cents a package.

(a) Suppose that production and sale are actually controlled by two men, who are on a precisely equal footing with respect to ability and situation. What will tend to be the output and price of each producer? Explain.

(b) What would be the effect of increasing the number of producers? Why?

3. Explain how trade associations, owing to the way in which they maintain "open prices" and attack "unfair competition," bring about results similar to those associated with monopoly.

4. What is meant by "price leadership"? Illustrate. What are its logical results where investment cannot be kept out of the field? Explain.

5. Describe and illustrate the practice of sharing the market. What are the logical results (a) where potential competition is a negligible factor? (b) Where "interlopers" enter the field and come under the "sharing" arrangement? Explain in both cases.

6. What devices are used to stabilize individual prices? How might the practice be used to economic advantage? What are the objections to the manner of its actual use? Explain.

7. Why is not "nonprice competition" subdued to the same degree as price competition? What is the general effect of its persistence? What is the probable effect of competition in quality? Of competitive sales promotion?

8. Looking back over your foregoing study of the determination of prices and outputs, what is your opinion of a policy of "let alone" as a protector of public interests? Explain briefly.

PART IV. PRICES UNDER REGULATION

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XVI

NATURAL MONOPOLIES: *THE RAILWAY PROBLEM*

It is generally agreed that private ownership and operation is now being subjected to final trial. In spite of the strong American sentiment against collective economic enterprise, it is becoming the consensus of opinion that, unless the carriers, after a reasonable opportunity, prove themselves capable of providing an adequate transportation service, the railroad systems are bound to be nationalized.—I. L. SHARFMAN.¹

Types of Public Control

WHEREVER it becomes clear that a policy of *laissez faire* is not likely to provide anything closely resembling the conditions of free competition, the public has a choice between two general methods of controlling price and output. One method is that of *enforcing* competition, making it free by means of a crusade against monopoly. Presupposing that whatever holds monopoly up must be artificial, this method undertakes to punish the monopolist, to thrust his artificial props away, and to keep him from getting either these or any other artificial props. But if the props have come to be such a natural part of our whole organization that removing them is quite out of the question, a second method suggests itself. It is that of regulating directly the things which it had once been hoped might be controlled by enforcing competition. Here we come to businesses which are said to be "affected with a public interest."

BUSINESSES AFFECTED WITH A PUBLIC INTEREST

From a broad economic point of view, businesses affected with a public interest are those in which the direct regulation of prices and outputs is preferable to competition because competition is bound to yield very wasteful results. They can be classified roughly into two groups. On the one hand, it has long been recognized that undertakings like railways, telegraph and telephone service, and so on, tend to become monopolies

¹ *The American Railroad Problem*. New York: D. Appleton-Century Company, Inc., 1921, p. 457.

of their own accord if they are let alone. They are said to be "natural monopolies"; and they need regulation to prevent them from selling too little and too high. On the other hand, it is coming to be realized that enterprises like oil extraction, bituminous coal mining, and even farming, if they are let alone, chronically sell too much and too low. It is fair to call them "surplus industries," meaning that they persistently produce surpluses in excess of the most economical outputs.

The present chapter and the three which immediately follow it will have to do with the leading principles of public control under these two general methods: compulsory competition, and direct regulation. As a matter of convenience, the regulation of natural monopoly will be considered first. Next we shall consider the direct regulation of "war" industries and "surplus" industries. Then, in order to convey some idea of the increasing scope of direct regulation, American experience with the policy of regulated competition will be reviewed. Finally, attention will be given to the mixture of indirect and direct regulation which was attempted under the National Industrial Recovery Act of 1933.

NATURAL MONOPOLIES

Some industries which work very wastefully under competition can also be subjected readily to unified control. Governments are disposed to encourage their operation as monopolies, but to discourage their doing as they like about prices and production. Such industries ordinarily display these general characteristics: First, the plant must be large and expensive in order to operate at all. There is not room for many plants, and there may be room for only one. Second, operations are simple enough to make large-scale management practicable. Third, conditions are such as to bring about disastrously severe competition unless the firms can get together. Among these conditions are overinvestment, fixed costs which are high in proportion to variable costs, and fluctuating demand for the product. The industries which have fallen under some form of direct public control possess some of these conditions, if not all. Examples are seen in city power and traction, telegraph and telephone service, railways, radio communication. Because of its unusual importance and long record of public control, the American railway industry will be used to illustrate the main principles of direct regulation.

THE RAILWAY PROBLEM

Beginning about 1830, our railway net developed very rapidly after the Civil War. Most of the nearly seventy thousand miles of line existing in 1873, when transcontinental service was first established, had been

built in twenty-five years; and the growth was cumulative for several decades after that. At present we have over a quarter of a million miles of road, and far more than that if we count a mile of double track as two miles. This is over a third of the world's mileage, more than is possessed by all Europe, and enough to make a ten-track railway around the earth. The system employs about 2 per cent of our entire population and, counting the families of railway employees, supports approximately 8 per cent. If producers of railways equipment are included, some 16 per cent of our people depend on the railways for support. The investment in the roads alone was estimated in 1920 at twenty billion dollars.

FAILURE OF COMPETITION

The industry is badly adapted to competitive operation. Where more service is needed, competition is slow to enter. Sites favorable for building are limited, and the investment required is huge. Competition is also limited in scope, being weak, to say the least, between smaller towns and cities supplied with only one line. Between major points, where it is strong, competition tends to be so strong as to become self-destructive. Approximately two-thirds of all the costs fail to vary with rather wide variations of traffic. Excess capacity has resulted from rapid building (and, since the World War, from the competition of highway carriers). Besides, the cost of any one service out of a great number cannot be ascertained accurately. These conditions have produced rate wars. In the 1870's it was not uncommon for rates to change by 25 per cent and more within a few months. From January, 1875, to July, 1876, the rate on first-class freight between Chicago and New York dropped from \$10 to 15 cents a hundredweight. Cattle were hauled from Chicago to the Atlantic seaboard for as low as \$5 a carload, and grain shipments for as little as 7½ cents a hundredweight. Immigrants were taken from New York to Chicago at \$1 each, and it is said that at one time they got transportation plus meals from Chicago to San Francisco at this same rate.² Despite the fact that something was recouped by discriminating against localities served by a single road, bankruptcies were chronic, nearly a fourth of the entire railway mileage being in receivership in 1894.

It became obligatory for the roads to restrain competition. They entered into rate agreements and pooled traffic, or profits, or both. Monopoly, in turn, led to government protection of the public from excessive charges and deficient service. It was not economic factors alone, however, which created sentiment for public control. Graft also played a

² See S. L. Miller, *Railway Transportation* (1924), pp. 135-37.

part. The completion of the first transcontinental line presents an outstanding case. The Union Pacific built westward from Omaha, and the Central Pacific eastward from Sacramento, the two lines finally meeting at Ogden, Utah. From Congress each company got twenty square miles of land along each mile of new road, as well as a loan of some millions on long term. Influential stockholders and officials of the Union Pacific organized a construction company, the Credit Mobilier, to build part of the new line. As officials of the construction company, they offered to do the building—at an exorbitant price. As officials of the railway, they accepted the offer. As stockholders of the construction company, they pocketed the payment, which gave them a profit of over \$16,000,000, or more than a fourth of the total cost of the construction. Oakes Ames, agent for the Credit Mobilier, turned over shares in the construction company to congressmen as “hush money.” The big railroad men of those days were confident of the public servants. Theodore Roosevelt tells us that Harriman, long head of the Union Pacific system, boasted that he could buy as many legislators and judges as he needed.³

OBJECTIVES OF PUBLIC CONTROL

The present form of direct federal control over railways engaged in interstate business began in 1887 with the adoption of the so-called Interstate Commerce Act. Under the new statute, the Interstate Commerce Commission was set up to enforce the rights of shippers. The federal legislation, as supplemented from time to time since 1887, can be best understood by relating it to the rights which it is supposed to enforce.

First, the public is entitled to “adequate service.” Economically, this does not mean enough service to give everybody all he wants, no matter how little he is willing to pay. It means as much service as shippers are ready to buy at prices approximately equal to costs of production.⁴ Second, there is the right to “reasonable charges.” Economically, this means that the carriers are entitled to charge for their various services only enough to make their investment yield about the same rate of return that competitive enterprises get on their investment. It is the rate of return which comes from charging prices approximately equal to costs. Third, there is the right to “nondiscriminatory charges.” Economically, this means that each separate service shall be charged according to its own cost. In getting a fair return on their whole investment, carriers are not to charge some services less than cost and recoup the loss by

³ See Willis M. West, *History of the American Nation* (1929), p. 762.

⁴ However, this statement is open to qualification and it is later qualified in the discussion of property valuation.

charging others more than cost. These are the main objectives. The degree to which they are likely to be attained depends largely upon the general principles of ratemaking and property valuation which are followed by the regulatory body, and also upon the effectiveness with which the principles are put into practice.

"Technical" Matters

To begin with, there are numerous matters of a more or less "technical" character, that is, things which must be attended to in order to give effect to the more general policies of regulation.

It is necessary to find out the existing facts. For example, the Commission must know what the revenues and expenditures of the carriers are. Therefore the Commission requires carriers to use uniform accounts, to make annual reports, or even monthly and special reports, to answer specific questions, to submit all records to inspection. To keep accounts from being misleading, the "capitalization" of carriers—the total of outstanding securities—must be approximately equal to the value of the assets. Once data are secured, it also makes a difference who decides what the facts are. The courts used to "review" the facts as found by the Commission, often "interpreting" them until they were scarcely recognizable. In 1906, however, supplementary legislation made these findings of the Commission final, and the courts were limited to deciding what the law should do about them. The same legislation made it necessary for carriers to begin obeying a Commission order as soon as it was issued. Before this, if carriers disobeyed, it had been up to the Commission to get the courts to enforce the order. Now it was up to the carriers to induce the courts to revoke or modify the order.

It is necessary to reduce labor troubles to the minimum. While railway workers are strongly protected in the right to bargain collectively, safeguards are set up against interruptions of service. Since 1934, employer-employee disputes concerning the interpretation of *existing* collective bargaining agreements are settled by the majority vote of the permanent National Railroad Adjustment Board, whose thirty-six members divide representation equally between the railroads and the national unions. Here the method of settlement is practically that of compulsory arbitration. Disputes arising out of the formation of *new* agreements are left to mediation, which is conducted by a three-man National Mediation Board appointed by the President by and with the advice and consent of the Senate. If these methods break down, the disputants must observe a period of neutrality, during which an impartial emergency board, created by the President, investigates the trouble and reports its

findings to the President. As a last resort, it is not unlikely that the government would intervene.

To secure efficient use of equipment, "car service," including the interchange of cars among roads, is regulated. During emergencies, unified operation and general pooling of equipment may be required. The combination of roads into limited number of systems is encouraged and supervised.⁵ The Commission is also given control over extensions and abandonments. But here a question of principle, and not merely a technical question, is raised. When should new line be built, and when should old line be scrapped? On economic grounds, the decisive factor should be the ability or inability of the line in question to pay its way. Service should be extended or abandoned until at a price equal to cost of production, the amount supplied equals the amount demanded.⁶ This is what should happen. What does happen depends to a great extent on the principles followed in determining "reasonable charges." By making charges too high or too low, extensions or abandonments can be made to appear desirable when they really are not.

Principles of Ratemaking

As pointed out above, "reasonable" or "fair" charges mean charges giving carriers about the general rate of return on investment. After 1920, the Commission divided the country into regions, and tried to set rates so that the roads in each region would come off with a 5.75 per cent return on the value of their property. Risks being taken into account, this was supposed to be a "fair rate of return." Of course the returns of specific carriers differed from the "fair" rate. High-cost carriers (weak

⁵ But consolidation does not go far to solve the problem of "strong" and "weak" roads, which exists where a low-cost and a high-cost road have been competing for traffic. If the weak road makes the same charges as the strong one, it gets a lower rate of return because of its higher cost. If it tries to charge more, it gets a lower return because it loses traffic. If the two are consolidated, it is possible to set uniform charges which will give the "going" rate of return to the two properties taken together. Administratively, this is convenient. It saves regulators the embarrassment of not being able to get the weak road a "fair" rate of return at all. However, it tends to hide the problem instead of solving it. The real problem is to reduce the high cost. The solution is to get rid of the excessive facilities, or the inefficient operation, or both, which cause the high cost. If anything, securing a "fair" return for the consolidated properties has the contrary effect, since it tends to protect inefficiency and excessive investment.

⁶ The Commission leaves the initiative mostly with the carriers. They seek permission to extend or abandon. Then the Commission, judging by what it thinks is in line with "public convenience and necessity," either withholds permission or grants it, with or without modification of the proposals submitted by the carriers. Apparently the Commission does not have the power to initiate large extensions or abandonments. However, it has initiated minor extensions, such as switch connections and links between rail and water carriers. Broadly speaking, the principle seems to be this: On its own initiative, the Commission may bring about such changes as are necessary to secure the efficient use of approximately the existing investment, but it may not bring about major changes in the amount of the investment itself.

roads) got less, and low-cost carriers (strong roads) got more. The difference was to be pared down by the "recapture" of excess income. (For reasons which will be considered at a later point, the recapture provision was abandoned in 1933.) To stimulate their efficiency, no doubt, strong roads were to keep half of any income which they got in excess of 6 per cent; but the other half of the excess was to be recaptured for a fund from which the Commission might make loans to weak roads. Now, the fairness or reasonableness of any carrier's return, or net income, depends essentially on two things: first, the principles of rate-making whose application determine the size of the net income; second, the principles of property valuation whose application determine the ratio, expressed as a percentum, of the net income to the value of the property. In the present main section, we have to do with the principles of ratemaking.

Railway traffic might be charged according to either the *value* of service or the *cost* of service. Either of the two principles may be applied to railway rates *as a whole*, and either may be applied to *particular* rates. Which principle is the better designed to secure a fair rate of return and an economical output of the service for which the charge is made?

RATES AS A WHOLE

To deal with the charges for various railway services as a whole—as a system, as a collection—is the same thing in principle as treating all the services as if they were one single service. In order to illustrate as simply as possible the comparative effects of the two principles of rate-making, we may suppose that we have a single railway which performs a single service: for example, it hauls a given grade of bituminous coal from X to Y. Now, if the right amount of service were being supplied, the value of service and the cost of service would come to the same thing. This is because the most economical output of any product is the output which buyers stand ready to take at a price equal to average cost of production. Any more or less is wasteful, since it causes a failure to use certain productive power where it would turn out products having the largest possible value. Thus the right quantity of the railway service which we are discussing is precisely the quantity which shippers stand ready to buy at a price equal to its average cost. But the use of the value principle, by the regulatory body, would give our railway a direct inducement to make the output of its service smaller than this. It could increase its income by restricting output, thus making the value of the service higher than the cost. In other words, it would be encouraged to do just what it would do if it were an unregulated monopoly. Railway rates

as a whole should be and are based on the cost principle, not on the value principle of charging "what the traffic will bear." This is the general rule, although differences between the charge and the cost are permissible where there is some special reason for subsidizing or penalizing the service.

INDIVIDUAL RATES

But the cost principle should apply also to *individual* rates. If a railway gets a fair return on all its services taken collectively, but does this by charging some services less than cost and others more than cost, there is *discrimination*. Productive power is wasted by supplying too much of the undercharged traffic and too little of the overcharged traffic. The leading types of discrimination—between localities, between commodities, and between firms—were discussed in Chapter XIV. Several safeguards against them are found in our system of railway regulation. The Commission is empowered to prescribe maximum and minimum rates. It can also suspend rate changes for investigation, even when the changes are within the upper and lower limits; and it can require roads to show proof why rates should be advanced. Its power to prevent excessive charges on any traffic is indirectly the power to prevent the undercharging of any traffic. It now has jurisdiction over industrial railroads, private car lines, and the like, which were once used to conceal rebates. Uniform accounting is itself a protection against discrimination, because it adds to the difficulty of falsifying costs. Departures from published rates are treated as evidence of discrimination. Local discrimination of the long-and-short-haul variety described in Chapter XIV is prohibited except in rare cases expressly authorized by the Commission.

To repeat, the charges for railway services as a whole and the charges for individual services should be based on average cost of production. And clearly this is on the understanding that the average cost is figured correctly. For any given output of a designated service, the average cost is found by adding total variable cost and total fixed cost and dividing the sum of the two by the number of units of output. The variable cost consists of current outlays on "working capital," that is, such highly variable items as unskilled labor and very perishable materials. The fixed cost consists of current outlays which are ascribable to the use of "fixed capital," that is, such highly invariable items as terminals, right-of-way, and rolling-stock. It is common to refer to the fixed capital as the "fixed plant," or simply the "plant," or "property." In calculating the average cost of producing the service, the main problem relates to the method of reckoning the fixed cost. This is the problem of "property

valuation": a high valuation makes for a high fixed cost and a low valuation for a low fixed cost.

Principles of Property Valuation

The value of a property, or "plant," may be figured from either the income which it yields or the cost of producing it. Under *competitive* conditions, the two approaches would come to substantially the same thing. If the plant in a competitive industry yielded more than the general rate of return, then enough more would be constructed to bring income and cost close together. Or, if returns were below the general rate, the amount of plant would decline enough to bring income and cost close together.

THE INCOME APPROACH

But the income approach is illogical when applied to the regulation of *monopoly* charges. It involves circular reasoning, because the regulation of charges affects the income which is to be used as a basis for regulating charges. To illustrate—a monopoly gets a big income by means of steep charges. The value of its property is now found by capitalizing this income. The result is a high property valuation. The high valuation, in turn, becomes an excuse for charging high prices—so that the income will be big enough to yield the general rate of return on the high valuation. Clearly, the income approach offers no solution for the problem of reasonable charges.⁷ The cost approach must be used instead.

THE COST APPROACH

There are two main versions of the cost approach. On the one hand, there is *past* cost, also called "actual" or "historical" cost. Assuming the investment in the plant to have been honest and prudent, past cost refers to what a given plant actually cost in the past. It takes into account net additions to plant, or net subtractions from it. That is, allowance is made for capital extension and depreciation. On the other hand, there is *present* cost, also termed "reproduction" cost. It refers to what it would cost to reproduce a given plant, or to produce an equally good one, at the present time. It allows for depreciation. Changes in the costs

⁷ The simplest version of the income approach is "capitalized net income," which means the result of dividing the net income by the market rate of interest. Another version is "market value." This value might be arrived at by estimating what a plant would bring if it were put up for sale. Where the business is incorporated, the sale value, in turn, might be estimated as being about equal to the market value of the monopoly's securities. In any case, the market value is affected by the net income; and it is affected, besides, by speculative influences. It is not likely to be better than "capitalized net income," and it may be worse.

of construction can make a big difference between past cost and present cost, and changes in the general price level can cause great changes in construction costs. When this happens, the problem is raised as to which of the two interpretations of cost should be used, or which, at any rate, should get the main emphasis. In order to make a clear comparison, let us take the following simplified situation as a point of reference:

We have two properties. One, a shoe factory, is in a competitive industry. The other, a railway, is in a monopoly industry. Both were built ten years ago. Each cost \$1,000 at that time, and there was no crookedness or stupidity about either investment. Since then the general level of prices has risen steadily until it now stands just twice as high as it did at the outset. The prices of materials, labor, and so on, have doubled; and it would cost \$2,000 to construct either of these plants today. Each plant depreciates, and is replaced, at the rate of 10 per cent a year. Supposing replacement to take place steadily, and not in big annual lumps, the actual past cost of each plant, as it stands today, is about \$1,500. But the present cost is \$2,000. The general rate of return to competitive enterprises, including our shoe factory, is 5 per cent, and we want our railway to get this rate of return.

Now, part of our problem is already solved. We do not need to set shoe prices, for the shoe industry is regulated by competition. Neither need we set valuations on the ordinary labor, perishable materials, and the like, used by the railway, for working capital like this is used up so fast that the past cost of any stocks on hand must be extremely close to the present cost. Where we still have a real problem is in setting a valuation on the fixed plant of the railway. Taking it for granted that the railway gets a fair return on its working capital, what is a fair return on the capital kept tied up in the plant? Should the railway get \$100, which is 5 per cent on the *present* cost of its plant? Or should it get only \$75, which is 5 per cent on the *past* cost of its plant? Using this simplified case for purposes of illustration, let us briefly compare the two bases of valuation with respect to certain questions.

PAST COST OR PRESENT COST?

First, which basis is the more *definite*? The \$1,500 investment in our railway is something which has actually happened. The \$2,000 reproduction cost, on the other hand, not only has not happened but is not going to happen. The railway is not actually to be reproduced. Instead, present cost refers to what it would cost to build an identical or equally good plant *if* one were to be built now. It refers to an estimate. To be sure, past cost, too, is an estimate if adequate records of investment are not

available. But, if such records are available, past cost refers to a fact, and is thus more definite than estimated present cost.

Second, which basis is the more *stable*? As past cost need only take into account net changes in the actual investment, and as the net changes caused by additions and subtractions are not ordinarily great except for long periods, the valuation does not typically require frequent revision. By contrast, present-cost valuation must be changed frequently, if it is to mean what it says, because changes in the general price level, among other things, are always changing the reproduction cost of the plant. In the case of railways, frequent changes in the property valuation imply the enormous difficulties of making equally frequent changes in a huge number of individual railway rates. It is true, of course, that the revision of present cost is not likely to require a new inventory of property each time a revision is to be made. On the contrary, the regulatory commission will presumably maintain a continuous record of changes in the plant. It will also be able to revise valuation in terms of price changes. In spite of this consideration, however, the advantage of stability lies with past-cost valuation.

Third, which basis is the better for the *economic purposes* of regulating the rate of return and, with it, the output of the industry? In arriving at an answer, we will find it convenient to refer to our illustrative case.

FAIRNESS TO INVESTORS

Take first the problem of fairness to investors. It is true that the actual investment in our railway is only \$1,500. But a "fair" return means the same rate of return that is being received by competitive enterprises. The 5 per cent now being received by our shoe factory is 5 per cent on \$2,000, not 5 per cent on \$1,500. The price of shoes has doubled in the last ten years, and the same output that brought in \$50 then brings in \$100 now. At existing prices of material, labor, and so on, \$2,000 is the present cost of building the shoe factory. The railway must get \$100 to do as well as the shoe factory, namely, to get the general or "fair" rate of return. Or we can look at it another way. A dollar now buys only half as much as it did ten years ago. In order to get the same real income which they enjoyed then, the owners of our railway must get twice as many dollars as they received then. There is no reason to suppose that the railway's stockholders are richer than its shippers, who consist mainly of the owners of other industries. Penalizing the former group in favor of the latter would probably make the distribution of our national income more uneven, not less so. Present-cost valuation is the fairer method.

ADEQUACY OF OUTPUT

Take next the problem of adequate output. If the 5 per cent return is based on past cost, our railway gets less than the general rate of return on capital, and is under a handicap in competing with other industries for investment. Indeed, the railway, if it were consistently held to anything substantially less than a fair return, would eventually cease to operate at all, unless the government subsidized it in some way.⁸ There is the further difficulty that not all roads are built at the same time. Roads built during a period of low cost will be penalized. In fact, the use of past-cost valuation will deliberately encourage investors to build during periods of high cost.

Emphasis on past cost tends to give railway investors unfairly low returns when costs are rising, and unfairly high returns when costs are falling. It tends also to distribute productive power uneconomically, not only between railways and other industries, but also among different railways. To be sure, the difference between past cost and present cost is reduced by the prevailing American practice of basing the estimate of present cost on an average covering several years. (Of course this practice tends also to stabilize present cost, and hence to decrease the advantage of past cost with respect to the stability of the valuation.) Nevertheless, prolonged periods of change in the general level of prices will make the difference marked. This level rose by more than 100 per cent from 1914 to 1920, and it fell by about 40 per cent from 1929 to 1933.

Apart from the question of "administrative workability," it is a fair conclusion that present cost is the sounder basis for property valuation. However, this conclusion is subject to two general lines of attack.

ERRONEOUS ARGUMENTS

One line of attack is based on confusions of thought. It proceeds on two suppositions: first, that there is some reason which justifies a comparatively low income; second, that the use of past-cost valuation is the proper method of holding the income down to the desired level. Now, the first supposition may be correct. For instance, our railway would not be entitled to the going rate of return on watered stock issued against an excessive valuation of its property. Or it may be that the owners of the railway should get a lower rate of return than the owners

⁸ Or suppose that a great fall in the price level, brought about, say, by a prolonged depression, makes past cost much higher than present cost. In this case, too, our railway's output is restricted, but for a different reason. There is no way to get the going rate of return on the excessively high valuation without charging so much as to restrict sales severely.

of the shoe factory because they assume less risk. Again, it may be that some public advantage could be secured by having the railway produce more than the output which we have described as "adequate." Thus, the railway might operate at a temporary economic loss for the sake of hastening the economic development of some region.

But the second supposition is confused, and for two reasons. One reason is that the past-cost base does not necessarily yield a lower valuation than the present-cost base. A *fall* of the general price level tends to produce just the opposite result. The other reason is that the use of past-cost valuation amounts to misrepresenting the cost of the product. Whatever the reason for holding down the price of the product, the price should be related to the current cost of production. When we are trying to use productive power economically, the thing that counts is what various products *do* cost, not what they *did* cost. And this depends on what productive power *is* worth, not what it *was* worth. If a property is overvalued, the remedy is to bring the valuation into line, not with past cost, but with an honest estimate of present cost. If the owners of our railway should receive less than the general rate of return, the remedy is to readjust the income to a lower basic *rate*, not to change the rate *base*, or the property valuation on which the rate of return is based. And if the object is to sell below cost, the proper procedure is not to understate the cost. On the contrary, the cost should be stated as accurately as possible, so that we can see what the loss is and thereby judge whether it is justified.

REAL DIFFICULTIES

In contrast with these confusions, the other line of attack on present-cost valuation is legitimate. It points to the practical difficulties of using this basis. The difficulties caused by vagueness and instability we have already considered. Another difficulty is raised by the fact that a large part of the capitalization of railways is in the form of bonds. Bonds receive a fixed money income. If the net income of a railway is changed, by revising the valuation on which a fair rate of return is allowed, the effect is confined mostly to stockholders. Thus, frequent changes of valuation would cause violent fluctuation in the income of stockholders. As long as price levels change, it is really illogical to have securities bearing fixed money incomes; but there they are, and there they will doubtless long remain.

When a choice is made between present-cost valuation and past-cost valuation, "economic" and "administrative" considerations simply come into conflict. The actual outcome is compromise, with Commission and

court struggling, sometimes against each other, over the terms of compromise.

Regulation on Trial

As we have seen, it was under the Transportation Act of 1920 that a "fair return" to railways was set at $5\frac{3}{4}$ per cent and that the recapture provision was to apply to returns in excess of 6 per cent. The years following the adoption of this Act have proved to be hard ones for the railways. Even in the 1920's the returns of the roads as a whole were chronically much below the 6 per cent level. In the early 1930's the situation became distinctly worse. Including in their costs the payment of interest charges, the Class I roads ran deficits varying from about \$139,000,000 in 1932 to \$250,000 in 1935. Several factors have combined to throw the supply and the demand of railway services out of joint with each other. For all kinds of transportation, taken collectively, supply has been outrunning demand. On the one hand, the demand fell heavily as a result of the depression which began in 1929. On the other—and this is a more persistent factor—the supply has been increasing. Although it may be doubted that rail facilities alone are more than adequate to meet the general demand for transportation, it is reasonably certain that all transportation facilities together—rail, motor, and water—are more than adequate to the task. It remains to consider the economic position of the railways in particular.

The railways have lost a great deal of oil traffic as a result of the extension of pipe lines. The development of electric power has also cost them some coal traffic. Of greater importance is the fact that the growth of competing motor and water carriers has made the demand for rail transportation more elastic. The consequence is that the railways stand to lose much traffic, not just a little, if for any reason their competitors have lower costs. Unfortunately, the feared discrepancy of costs is a reality. For several reasons, some of which are unfair to the railways, railway costs are pushed up while the costs of competing agencies are held down.

No doubt the high costs of the railways are partly ascribable to the use of inferior equipment, and to the failure to consolidate into systems which could economize operations by eliminating excessive facilities. A more important factor is increasing wages, for wages constitute roughly two-fifths of all costs. From 1916 to 1935 the average wages of railway labor more than doubled, rising from 30 cents to 70 cents an hour. Railway labor is well organized, and it is also well protected by public authority. At the same time, competing water and motor carriers have

been subsidized at public expense. Thus, during the 1920's, the Mississippi-Warrior Rivers barge line was able to haul low-grade traffic below cost because the government made good losses averaging about half a million dollars a year. The most serious competition with rail carriers is offered by motor carriers—freight trucks and passenger buses, not to mention a huge number of private passenger automobiles. Of some twenty-five million automobiles in the United States, over one hundred thousand are passenger buses and about three and one-half million are trucks. Railway officials contend that the operation of motor vehicles in general, and of trucks in particular, is subsidized at public expense, part of the subsidy coming out of taxes which are imposed on the railways themselves. It is admitted that vehicle licenses and gasoline taxes contribute heavily to the building and maintenance of highways. Of the total spent by the federal government and the states together for road construction, the states pay about half, and most of this half comes from motorists. It may be, however, that motorists, as they derive most of the benefit from the highways, should pay a larger proportion of the total cost. It may be, too, that the trucks, in view of the wear-and-tear which they occasion to the roads and the inconvenience which they impose on other traffic, should bear a larger proportion of the burden imposed on motor vehicles in general. It is certain that freight is the most important source of revenue to the railways, and that the trucks are taking a large part of the short-haul freight.

REGULATORY CHANGES

For years both the measures and the organization of regulation have stood in need of revision. In the 1930's the need was partially met, but only partially.

Under the Emergency Transportation Act of 1933, which dropped the recapture provision, the office of Federal Co-ordinator of Transportation was established, and J. B. Eastman, formerly of the Interstate Commerce Commission, was appointed to it. Assisted by regional committees for Eastern, Western, and Southern groups of railways, the Co-ordinator was to encourage or require the elimination of surplus facilities and services and of other wastes. He was also to promote financial reorganization, provide for the study of transportation problems, and recommend legislation designed to effect improvements. Eastman limited himself chiefly to encouraging. He studied various possible economies of service, such as the joint use of equipment, and suggested numerous changes. The suggestions were not favorably received. Railway executives thought the changes would cost too much to effect any net saving, and railway

labor feared that the demand for its services would be reduced. Eastman recommended that the office of co-ordinator be made permanent, but in 1936 Congress failed to renew it. Further study of the problem of co-ordination was indicated in 1941 by the appointment of the three-man board to investigate various modes of transportation. The appointees were Nelson Lee Smith, chairman of the New Hampshire Public Service Commission; Robert E. Webb, chairman of the Kentucky Railroad Commission; and Cyril E. Childe, transportation counsel, Omaha. The Board is to investigate the relative economy and fitness of different types of carriers, the public subsidies extended to them, and the taxes imposed on them.

The co-ordination of transportation is still far from being adequate. With the adoption of the Motor Carriers Act of 1935, the powers of the Interstate Commerce Commission over interstate commerce by motor trucks and buses became similar to the Commission's powers over interstate rail traffic.⁹ Fair and nondiscriminatory rates are required, and the Commission can prescribe maximum and minimum rates. Jurisdiction over water carriers is still divided. The ICC can control interstate water transportation only where railways own water carriers or where joint rail and water routes are used. Authority over Great Lakes and coastal transportation now lies with the United States Maritime Commission (formerly the Shipping Board), which controls competitive practices and maximum rates. Government river-barge lines, such as the Mississippi-Warrior route already referred to, are operated by the War Department, and the regulation of rates, as the term is used here, is *nil*. Split control of this sort is inefficient for the reason, among others, that the rates charged by any given type of carrier affect the incomes of competing types. As for the railways, the consolidation of many lines into a limited number of systems, in conformity with general outlines drawn by the ICC, has proved a fading vision. In the 1920's the Commission drew up a plan for nineteen major groups, but little came of it. Like Kipling's famous "eathen," who "don't obey no orders unless they is his own," the more powerful carriers limit their interest mainly to systems of their own design.

Three general possibilities seem to remain. First, the present requirement, that consolidation conform essentially with the plan of the Com-

⁹ The Act applies chiefly to three groups: first, common carriers, which operate over regular routes between fixed points; second, contract carriers, whose routes and terminals are not fixed; third, brokers, who arrange for the services of such carriers. Only those who can show the need for their service and their ability to supply it are permitted to operate. Rate control relates to the common carriers. There is also general control over standards of equipment, hours of service, and labor conditions.

mission, might be dropped, railways being allowed to consolidate according to any plan which they work out and get the Commission to approve. Second, if voluntary consolidation fails, on these terms, compulsory consolidation could be adopted. Third, if the failure of the roads to cooperate should make even compulsory consolidation unworkable, the government might take over the operation of the roads, perhaps under government ownership. This final possibility merits further discussion.

GOVERNMENT OPERATION

The main question now to be raised is that of public *operation*, not that of public *ownership*. Public operation can take place under either private or public ownership. That there is not necessarily any great difference between the two situations may be illustrated as follows. A city might either pay interest on bonds floated for the purpose of building itself an electric plant (public ownership) or borrow the use of a similar plant from a corporation and pay the same annual interest (private ownership). The two policies, although differing in form, need not differ much for practical purposes. But there is necessarily a real and substantial difference between public operation and regulated private operation. To judge what the difference is, let us compare the two forms of operation. The comparison is made on the understanding, of course, that private operation would be publicly regulated. Throughout the comparison, too, it seems only fair to assume that public operation would be in the hands, not of party politicians, but of an expert and impartial body, like the ICC, which would protect it from such pressures as distort American tariff making.

INCENTIVE

In considering the case against public operation, no great importance should be attached to the oft-heard argument that private operation gives the management a greater stimulus to efficiency. No doubt this would be true if private operation were free from public regulation, and if the business were so small as to give its head an intense personal interest in its success. But this is not the actual alternative to public operation. Instead, the alternative is the publicly regulated operation of very large corporations. Thus the two forms of operation are about equally impersonal and "regimented." In fact, public operation seems to enjoy a certain advantage with respect to incentive. It offers technical experts the prestige of public office and the altruistic incentive to serve the public at large. In any event, the case against public operation is reducible to three main counts—that it lends itself to "unfair competition"; that it

discourages experimentation; and that it results in a wedding between a business unit and a political unit which are incompatible.

DISGUISED INEFFICIENCY

First, under public operation a business may practice what practically amounts to unfair competition, thus concealing the fact that private operation would really be more efficient. To illustrate—a publicly operated telegraph system may set down the value of its property at a fictitiously low figure so that its costs appear lower than they actually are. (Incidentally, this would be the result of using past-cost valuation when it was lower than present-cost valuation.) Or it may borrow more cheaply than a private system could do, not because its efficiency makes it less liable to lose money, but because it can protect its bondholders by calling on taxpayers to make good its losses. Or, where more or less competition remains in the field, it may get the public authorities to impose unfair conditions on its rivals. For example, A. C. Pigou tells us that the British authorities refused to let a telephone system compete fairly with a State telegraph system by receiving and delivering written messages.¹⁰ However, while unfair practices *might* be used, there are no compelling reasons for supposing that they actually *would* be used, especially if public operation were in the hands of an impartial commission.

IMPROVEMENTS

Second, public operation is said to discourage experimentation. Under public operation any proposed change, such as the use of a recent invention, must meet the approval of officials who are, by the nature of their positions, exceptionally conservative. As the political party out of power would be quick to make capital out of any unsuccessful innovation, the authorities are reluctant to experiment; and their reluctance has the further effect of discouraging invention itself. Under private operation, so the argument runs, the willingness to assume risks is greater, a fact which encourages not only experimentation but also the development of new appliances and methods. This argument is weakened, however, by the fact that private operation would be conducted by large firms subject to public regulation, and by the further fact that either private or public operation probably would be controlled by an impartial commission. It is worth observing, too, that salaried research staffs develop many improvements.

¹⁰ *Economics of Welfare* (1924), pp. 360–61.

MISMATED UNITS

Third, public operation is said to interfere with the use of business units of the most economical size. That is, political units covering given areas come to operate industries within the same areas; and these political units do a poor job of it because they were never set up for this purpose. For example, a city government, though it may be well equipped to take care of city streets, city schools, and the like, is poorly designed to run an electric power system whose area is much greater than that of the city. Again, in the federal operation of railways doing both interstate and intrastate business, inefficiency is likely to be caused by conflicts between federal and state jurisdiction. Nevertheless, it should be noted that a similar difficulty is faced by private operation which is subject to public regulation. That is, the *regulating authority* may be more or less ill-adapted to the character of the industry which it regulates. It must also be remembered that public operation enjoys one distinct advantage over private operation. This arises out of the fact that private operation, since in reality it is in the hands of concerns which maintain no little competition with one another, causes wastes which could be eliminated more easily by public operation than by mere public regulation. Our railways, for example, continue to compete between large cities, such as Chicago and New York. The result is an excessive duplication of services and facilities. During the World War our railway facilities, although not excessive for the abnormal traffic, continued to be used so uneconomically under public regulation that public operation became unavoidable. It remains to be seen whether the same thing will happen as a result of American participation in the wars of the 1940's.

VESTED INTERESTS

On the positive side, public operation offers two advantages. First, it requires only one management, while regulated private operation requires what amounts to duplicate managements—a private management and a public regulatory commission. Second, under private operation it is very difficult for public control to secure either the desired output of service in general or the desired proportionality among different types of service. This is because any proposed change meets the opposition of vested interests. For example, if it is sought to increase the output, thereby lowering the rate of return, or to abandon a given railway line, or to change the proportions between low-grade and high-grade traffic, there will always be investors or shippers standing to lose by the change, and they will put up a resistance sufficiently stubborn to delay or even prevent

the adoption of the proposed policy. Any man who has served on a public service commission can verify this conclusion with voluminous evidence drawn from his own experience. In these circumstances, rather than let the bad economy persist, there is a telling argument for adopting public operation. It is true, of course, that the advisability of public operation cannot be judged dogmatically. Whether such operation would be advisable in any particular case depends on both the nature of the industry and the quality of the public authority which would operate it. Nevertheless, it is clear that the conflict between private and public interests creates a stronger case against public regulation than it creates against public operation.

In conclusion, the necessity of indemnifying private interests, on account of the losses which the shift to public operation would cause them, may justify a change to public ownership as well. As an illustration let us suppose that our federal government takes over the operation of the railways, makes needed changes in organization and outputs, and pays investors for losses occasioned by the changes. At a later date still further changes are needed. But again vested interests resist. If this is the prospect, it might be cheaper to buy up the roads in the first place, and surely progressive changes could be made more readily under such an arrangement.

With other natural monopolies, as with railways, the general objective of public control is that of adequate output of products sold at fair and nondiscriminatory prices. But this is also the objective when public control relates to other conditions besides that of natural monopoly. In the chapter which follows, the condition under discussion is that of wartime profiteering. During the World War, many prices rose far above costs of production, not so much because producers were in a position to restrict their outputs as because they were unable to expand their outputs as rapidly as the demand for their commodities increased. This situation will be worth studying, not merely because it led to widespread price regulation, but because it shows the inevitable connection between a major war and the wholesale submergence of economic and personal freedom.

PROBLEMS

1. Describe and illustrate the leading conditions which cause an industry to be "affected with a public interest." What general types of regulation are possible?
2. Why has the railway business been termed a "natural monopoly"?
3. In what main respects is public regulation of a natural monopoly supposed to protect the interests of the public?

4. Explain the meaning of (a) adequate service; (b) fair charges for service in general; (c) nondiscriminatory charges for particular types of service.

5. Explain the essential difference between the value and the cost principles of railway rate making.

(a) Would the thoroughgoing application of one of these principles make it unnecessary to set valuations on railway property? To regulate railways at all? Explain in both cases.

(b) Discuss this argument against the cost principle: "You can't know what the service will cost until you know how much service the shippers will take, and you can't know this until you know the cost of service."

6. Why does public regulation involve the valuation of property? The property to be valued is often described as that which is "used or useful in the public service." Why "useful" as well as "used"?

7. Property value can be figured from either the income which the property yields or the cost of producing the property. Which of the two methods do you think preferable, and why?

8. Cost valuation can be figured from either past (actual, or historical) cost or present (reproduction) cost.

(a) Explain the main difference between the two methods.

(b) Administrative difficulties aside, which of the two do you think preferable, and why?

(c) Do you think that one of the two presents greater administrative difficulties than the other? Explain.

9. "The present-cost basis of valuation for the property of a regulated monopoly is weak because it proceeds on the assumption that the output of the industry should be made the same as it would be under conditions of free competition. Now this is not true. For instance, it would sometimes be to the interests of the public to make the output larger than it would be under conditions of free competition. Therefore we should use past-cost valuation." Discuss this argument carefully.

10. "In order to avoid discrimination among commodities and localities, it is necessary to base the prices of individual services on the cost-of-service principle." Do you agree? Explain.

11. Discuss the following arguments against the public operation of a "natural monopoly":

(a) Public operation kills the incentive to operate efficiently.

(b) Public operation lends itself to unfair practices.

(c) Public operation discourages the adoption of improved facilities and methods.

(d) Public operation causes a mismatching between the regulatory authority and the industry which it regulates.

12. Is there any reason to suppose that public operation might work better under public ownership than under private ownership? Discuss.

REFERENCES

See references at the close of Chapter XVII.

XVII

WAR INDUSTRIES: CONTROL OF PROFITS AND PRICES

This war is the biggest job America ever faced, or is ever likely to face. It is a job so big that none of us has walked around and measured it. We have only got some little views of the mountain that is ahead of us. We are just beginning to understand . . . what it means to prepare America for war. —FRANK A. VANDERLIP, December, 1917.¹

Introduction

MAINLY as a result of the Second World War, the United States is embarked on a program of national defense the minimum annual cost of which will probably be half our national income for an unknown number of years. The program presents a twofold problem. On the one hand, we are undertaking to increase our war machine, with all possible speed, to twice our existing navy, to 120,000 military tanks, to 185,000 warplanes, to 18,000,000 tons of cargo ships, and so on. On the other, we are seeking to escape the waste and profiteering which attended a similar effort during the First World War.

Even such fragmentary evidence as came to the attention of the United States Senate on two occasions shows that there was an enormous amount of profiteering in America during the First World War period.² In other words, exceptionally high rates of return indicated that many selling prices stood abnormally far above costs of production.

NATURE OF PROFITEERING

One investigation of a large number of firms in various industries revealed that returns of 100 per cent and upward on 1917 capital stock went to 8 per cent of the yarn manufacturers, 13 per cent of the garment manufacturers, 18 per cent of the meat packers, nearly 33 per cent of the steel mills, and 50 per cent of the producers of bituminous coal, while

¹ Cited by Rolf Nugent, *Guns, Planes and Your Pocketbook*, 1941, p. 1.

² See Senate Document 259, 65th Congress, and data secured by the Nye Committee (a Special Committee of the Senate, appointed in 1934) on profits in munitions.

many returns of more than 500 per cent were recorded for individual firms. Spectacular returns were enjoyed also by industries associated closely with munitions. The Winchester Repeating Arms Company realized 40 per cent in 1918 and 63 per cent in 1919; the Savage Arms Corporation, 65 per cent in 1917 and 43 per cent in 1918; the Colt Patent Firearms Company, 60 per cent in 1918 and 64 per cent in 1919; the Newport News Shipbuilding and Drydock Company, 85 per cent in 1917 and 72 per cent in 1918; the New Jersey Zinc Company, over 95 per cent in both 1917 and 1918. In round numbers, U. S. Steel did twice as well as before the war; Bethlehem Steel, three times; Atlas Powder, five times; Hercules Powder, six times; du Pont, nine times. There were similar returns in shipping and in other trades. Thousands of new millionaires were made, and scores of people got war profits of over a million dollars a year.

MODERN WAR AS A CONSUMER

The War was prodigiously destructive of life and wealth, not so much because its military weapons were destructive in themselves as because it degenerated into a huge stalemate. There was a deadlock because modern weapons operated from entrenched positions gave the defensive a marked advantage over the offensive. Flanking movements, cavalry charges, and frontal assaults by infantry worked under such a handicap that the old-fashioned war of movement gave way to a war of position, and not even high explosives, poison gas, airplanes and tanks proved capable of restoring mobility. Thus the adversaries settled down to a death grapple which was broken only when one side could no longer endure the loss of blood and treasure. The deadlock was huge because the numerous belligerents had every facility for maintaining enormous forces in the field. To a war like this it is not surprising that the contestants devoted a large part of all their economic resources. For example, not far from half the gainfully employed persons in the United States,³ and from half to two-thirds the productive capacity of Britain,⁴ were engaged directly or indirectly in carrying on the conflict. This meant an intense concentration on articles needed in abnormal quantities for war, governments taking great supplies and encouraging increased output. Our own government took two-fifths of our sulphuric acid, half our zinc and quicksilver, about two-thirds of our coarse cotton fabrics and nitric acid, and nine-tenths or more of all available nickel, copper, aluminum, and steel. The War of 1939, despite the spectacular "blitzkrieg"

³ B. M. Anderson, *Effects of the War . . .* (1919), pp. 197-98.

⁴ Sir Arthur Salter, *Recovery: The Second Effort* (1932), pp. 241-42.

operations by land, settled down to a prolonged struggle of attrition between Germany and Britain; and at the same time enormous pressure has been put on the economic resources of the belligerents by the emphasis on costly mechanized equipment.

METHODS OF SECURING SUPPLIES

What this would do to the prices of favored articles depended on governmental policies. In such a situation a choice between two general policies is open. If the voluntary policy is chosen, the government steps into the open market to compete for what it wants. For instance, it asks the clothing manufacturer what he will take to produce army uniforms instead of ordinary garments, and it offers prices attractive enough to bring forth the required output of uniforms. Under this policy, increasing output cannot keep up with increasing demand, and prices are chronically far above costs. If, on the other hand, the coercive policy is chosen, the government commands producers to provide it with certain supplies. It commandeers either products or the means of producing them. The prices of conscripted goods may or may not be directly limited. Sooner or later, however, profiteering has to be curbed. It causes bitter popular resentment; and, because it puts a heavy financial strain on governments, it encourages public borrowing on such an extensive scale as to create dangerous currency expansion and runaway prices. The question becomes, not whether profits should be limited, but how to limit them.

Methods of Limiting Profits

The governments engaged in the War of 1914-18 tried at first a compromise. But it was not the familiar peacetime compromise of dressing up the sheep of *laissez faire* like the wolf of public control. Rather, it was the contrary. It took mainly the form of letting prices of war goods rise and then putting taxes on excess profits. As time went on, however, there was everywhere a stronger and stronger drift away from mere profits taxation toward the policy of setting maximum prices on products and productive power. Nevertheless, the change was not made without protest, at the time and afterward. Thus the London, *Spectator*, dismayed at the complications of price fixing, made this statement in January, 1918: "If the Government believed that the cry of 'profiteering' was justified, they ought to have dealt with it specifically . . . by limiting profits, by taxing them." The idea was that taxation would accomplish substantially the same results as price fixing and do it far more simply. In order to investigate the truth of this claim, it is necessary to bear in mind the essential nature of the difference between the two policies. The

taxation policy implies that, after production and sale, approximately all the excess profit realized by selling above cost will be recaptured by taxation. The price-fixing policy implies that, ahead of production and sale, prices approximately equal to costs will be set on products.

EFFECTS ON PERSONAL DISTRIBUTION

Assuming the two policies to be about equally workable, the maximum-price policy is the more fair. Under the taxation policy, the funds collected from producers in the form of taxes come indirectly from those who buy the high-priced goods.⁵ For a commodity like steel, which is bought almost exclusively by the government, this may make no great difference, since the government not only pays the high prices but also collects the profits taxes. But for commodities like coal and wool and cotton goods, large parts of which are bought by the civil population, it does make a difference. In this case a particular class, composed of the civilian buyers of the high-priced goods, is the victim of discrimination. The discrimination is similar in principle to that which is caused by protective tariff, but it is worse in fact, because it is more restricted to essentials. Any tax on essentials hits the poor harder than the rich, for the reason that the poor buy little else except essentials. The maximum-price policy tends to remove this injustice, since it is designed to protect buyers from the burden of excessive prices. In reality, it does even better. As we shall see later, it necessitates the rationing of commodities, and in practice rationing has the effect of evening up the distribution of commodities between the rich and the poor.

EFFECTS ON PRODUCTION

Assuming, as before, that the two policies are about equally workable, the maximum-price policy offers the greater incentive to production. Profits taxation has comparatively little effect on the outputs of either competitive or monopolistic enterprises. Both types of enterprise tend to go ahead with the practices which seem most profitable; and, as any extra profits which might be made by reducing costs would be taken by taxation, little is to be gained by economizing or improving the methods of production. Maximum prices, however, are set ahead of production and sale, with the result that the producer is rewarded for reducing his costs. Nor is this all. In cases of monopoly, or of monopolistic competition leaning strongly toward monopoly, price fixing can create a special in-

⁵ The tax is not "shifted" from sellers to buyers. Its effect is that those who were formerly burdened with high prices for the benefit of the sellers are now burdened with high prices for the benefit of the public at large. On the subject of tax shifting, see Chapter XXIX.

ducement to enlarge output. Producers whose prices are pushed down closer to cost find that larger outputs than before are required if maximum profits are to be realized.⁶

But in fixing maximum prices for either monopolies or competitive enterprises it is necessary to base costs on expanded outputs, and to take account of the fact that rapid expansion raises costs. It is necessary also to enable industries to get more capital in order to expand output. Unless additional capital is brought in by commandeering—this was the trend during the First World War—it is probably good strategy to allow the regulated industries something over the general rate of return.

Problems of Price Fixing

We must now investigate the assumption that the two policies are about equally workable. Price fixing undoubtedly becomes a huge and complicated task. The commandeering of certain supplies for government use, and also the rationing of other supplies for civilian use, becomes more imperative and sweeping under price fixing than under the policy of profits taxation. Price fixing presents a more difficult problem in the field of accounting for costs. That is, price fixing requires separate costing for different types and qualities of products turned out by a given business enterprise, while profits taxation requires only a general accounting for the costs of the enterprise as a whole. Further, evasion may be easier to control under profits taxation, which allows more time than price fixing does for the detection and punishment of evasion. The general conclusions which are reached in the following discussion are subject to qualification in the light of these facts. Nevertheless, it is not fair to compare wartime price fixing with the blessing of the hands-off policy of peacetime. Hands cannot be kept off profiteering during war. The comparison lies between *wartime* price fixing and *wartime* profits taxation. Such a comparison may be made by reviewing the leading difficulties of wartime price fixing and indicating, in each case, whether the difficulty would be avoided or substantially lessened under the policy of wartime profits taxation.

EXTENT OF PRICE FIXING

First, price fixing tends to spread out "horizontally" from product to product. Anxiety on this score is summarized as follows:

⁶ Provided price is not pushed *all* the way down to cost at a single step. Unless it is allowed some differential gain, the regulated industry enjoys no advantage over other industries in competing for the additional investment needed for the extension of output. This is a difficulty which is likely to beset the use of the fair rate of return as a basis for regulating natural monopolies.

When price fixing is once begun there is no way of stopping it. One can not thrust the ramrod of maximum prices into the delicate mechanism of industry and commerce in but a few arbitrarily selected places. It is idle to fix prices for a few cereals and tubers, leaving other foodstuffs unregulated. Such procedure opens the way to substitution and it may lead to the total disappearance of the regulated article from the market. If the price is fixed only for milk, milk may be converted into butter; if the price of butter is also regulated, milk and butter may be converted into cheese; if cheese is added to the list of controlled foods, milk cows may be converted into beef; if the price of beef is also fixed, the farmers may withdraw entirely from dairying and cattle raising, and so on, until the policy, in order to have any chance of success, is extended to all the products as well as to all the processes, the materials and the labor involved in their making. According to the *Bankers' Magazine* "the only just and fair system for regulating and controlling prices, in an equitable manner, is to fix all prices."⁷

Incidentally, this train of reasoning resembles a railway train which works up so much speed that it overshoots the station. The prices to be fixed are those which otherwise would stand far above cost. And surely *all* prices cannot go far above cost at the same time. Relative prices are a matter of relative scarcity, and the scarcity of some commodities implies the superabundance of others. The policy of setting maximum prices need not take in articles already selling at or below cost. However, the main point is this: The same business enterprises and the same articles which must be covered by price fixing must be covered also under the alternative policy of profits taxation. If the sole object were to control profits, profits taxation would be the simpler policy, since it would require only a general accounting for the costs of each enterprise as a whole, and this problem could be handled by our existing machinery for taxation. But there is also the problem of securing the right relative outputs of different articles, a fact which makes it important to ascertain the separate costs of different articles produced by a given enterprise.

Second, price fixing tends to extend vertically, or from one stage of production and sale to another. It is not enough to set maximum prices on raw materials at the top of the line. Manufacturers will now have lower costs; but, under the pressure of wartime demand, they need not lower their prices in order to get rid of all they can produce. Following similar reasoning, it can be seen that regulation must take in all the markets from the top down—producers of materials, manufacturers, wholesalers, retailers. In Great Britain, price fixing at all steps came more

⁷ Simon Litman, *Prices and Price Control in Great Britain and the United States During the World War*. Washington, D. C.: Carnegie Endowment for International Peace, 1920, pp. 162-63.

and more to be the form of regulation used.⁸ If conditions were truly "competitive," it might be practical to set retail prices alone, and let decreases of demand pull down prices in each of the successive markets up the line. But conditions, none too competitive at any time, are certainly so chaotic during war as to make this plan unworkable. And yet, granting that price fixing must extend vertically, the same stages of production and sale taken in by price fixing would have to be embraced also by profits taxation.⁹

DIFFERENTIAL COSTS

Third, price fixing must take into account the fact that costs differ from one producer to another. The basis of the plan followed in the United States was this: For each regulated industry, the country was divided into regions. Then, in any given region, the price of a regulated product was set about equal to the "bulk-line" cost—that is, about equal to the average cost of the highest-cost producers included in the "representative firms" described in Chapter XI. Thus the high prices caused by abnormal demand were scaled down to approximately the levels where they would have stood had increasing output been able to keep up with increasing demand. This allowed more than the general rate of return to producers working below the bulk-line cost, and it allowed exceptionally high returns to a few whose costs were abnormally low. Strictly speaking, these profits were not "war" profits. They were what was left after the effects of wartime demand had been discounted by price fixing. Nevertheless, a large part of them was taken by progressive taxation. The plan actually followed, therefore, was a combination of price fixing and profits taxation. But the main point to be observed is that although many costs must be figured for purposes of price fixing, the same costs would have to be figured for purposes of estimating excess profits.

PROPERTY VALUATION

Fourth, the price-fixing plan makes it necessary to estimate the values of fixed plants used in production. In general, the method used in the United States was to take the "book" values of plants as they stood before the wartime expansion began, and then revise the valuations according to current costs of extensions. In industries of monopolistic competition this

⁸ Of course this is difficult where various "utilities" are added to a commodity on the way. In the case of shoes, the authorities tried the following device: They encouraged the production of certain highly standardized shoes, hoping that control over the prices of the standardized would serve to hold down the prices of the unstandardized.

⁹ The conclusion is similar for seasonal variations in the production and consumption of commodities. Price fixing would have to take account of the variations, but so would profits taxation.

method was crude, because the valuations carried on the books of corporations were strongly influenced by the capitalization of incomes which were unfairly high. It was all the more crude because valuations were hastily made. An example is seen in the way in which the costs of crude steel products were estimated—for of course the estimates were supposed to take plant values into account. Apparently three steel men, Legge, Replogle, and Summers, turned out in about one night figures which “remained virtually unchanged for the period of the war. . . . Following the fixation of prices in the basic materials, all steel products were later priced accordingly.”¹⁰ During wartime, hasty valuation is inevitable. But the generally unsatisfactory outcome is not to be avoided by using profits taxation instead of price fixing. Costs of production must still be figured in order to estimate profits, and plant values must still be figured in order to estimate costs of production.

EXPORTS AND IMPORTS

Fifth, price fixing raises special problems in foreign trade. Push prices below what certain goods will command abroad and the goods will leave the country. To prevent this, it becomes necessary to restrict exports directly. For example, Britain placed embargoes on steel and coal, except in the case of shipments to allies. Again, maximum prices lower than world-market prices cannot be set on imported goods. If they are, foreign producers simply sell where the prices are not fixed. British policies during the World War suggest how such commodities are most likely to be handled. Britain produced part of her beef and imported the rest. The government became the sole agency of purchase and sale. Domestic beef was bought at a maximum price, and foreign beef at whatever had to be paid. Then, in selling, no distinction was made between domestic and foreign beef of any given type and grade. In such cases, the government may set selling prices so as to recover total costs, or it may choose to make losses good out of public funds. In order to help the poor, Britain sold bread at a loss. The question is whether these difficulties could be avoided by using profits taxation instead of maximum prices. To answer it, we must consider the further question of “commandeering.”

¹⁰ G. B. Clarkson, *Industrial America in the World War* (1923), pp. 320–23. It would be exaggerating to say that plant valuations were “methodical” at all. The valuations were very rough estimates, based “more or less” on physical valuations of plants, “more or less” on capitalized net income, and so on. Since, however, the government was in a great rush to increase output, and since the businessmen in the regulated industries were very influential in shaping the policies by which they were to be regulated, it is a fairly safe “estimate” that the “estimated” valuations were at least high enough.

PRICE FIXING AND COMMANDEERING

The way in which price fixing leads to commandeering may be illustrated as follows. The government is buying home-grown wheat. If it tries to set a maximum price on sales to itself without setting the same limit on sales to civilians, producers will not sell to it. If it sets a maximum price on all sales, and stops there, the distribution of the available supply between itself and other buyers becomes largely a matter of chance. But, since it cannot afford to take chances, it must commandeer—arbitrarily take—what it has to have. Commandeering may also be used, in place of an embargo, as a means of cutting off the competition of foreign buyers.

Nevertheless, the difficulties of commandeering can hardly be avoided by substituting profits taxation for price fixing. The reason is that commandeering itself is practically unavoidable. Government officials cannot tell how much of a commodity they will get, or how fast, merely by offering a certain price. They must have the supplies, and time is too precious for experimentation. Besides, businessmen who hesitate to produce to government order are hurt by government competition. Commandeering is a protection to both sides. Moreover, price fixing makes commandeering much easier. It saves a great deal of strain on public credit, and it supports popular morale by protecting the poor from hardship. These considerations more than offset the difficulties which price fixing raises with respect to foreign trade and commandeering.

RATIONING

Seventh, price fixing causes a difficult problem of rationing. Supplies not commandeered by the government for itself must be divided among the civil population. During peace, prices are allowed to take care of the personal distribution of most goods. Buyers compete for supplies, and each buyer gets as much of any particular commodity as he is willing to take at the price set by competition. The arrangement is economical in the sense that it keeps people from using goods for purposes which are worth less than the prices that have to be paid. But wartime price fixing throws this arrangement out, because it shoves prices below the points where the free bidding of the market would put them. At the artificially low prices, people want larger amounts of the regulated goods than there are. Unless supplies are now rationed, the best that can be said for distribution is that it is left to chance. "First come, first served," and the uses actually served may be less important than those that are not. But this is not the worst that can be said. People are unwilling to leave the

outcome to chance. A faint idea of what happens can be gained by watching crowds trying to enter subway trains or moving-picture theaters, or, perhaps, by observing the activities of the ladies who surround bargain counters. When the commodities are more essential, the results are correspondingly more serious. In the queues where buyers used to line up before European shops, people who were supposed to be intent on strafing the foe would be engaged instead in mutual assault and battery.¹¹ The case is similar with production goods. Price fixing without rationing fails to distribute such goods according to the relative urgency of different products, and it is an open invitation to racketeering.

In the rationing of scarce products, governments adopted the zoning system. Each buyer was limited to a specified amount of a certain commodity during a given rationing period. The length of the period depended on the commodity. Abroad, bread was typically rationed by the day. In the United States, sugar was rationed by the month. Buyers could not be allowed to purchase their rations where they liked, since this would have exhausted the supplies of some dealers while others were left with surpluses. Hence, in the purchase of any rationed product, each buyer was attached to a particular dealer. Dealers, in turn, were attached to specific distributing agencies, which rationed supplies among them. It was now necessary to check up on the actual amounts sold by dealers to consumers, since otherwise dealers might have held out supplies for purposes of profiteering. The usual solution of the problem was this. Consumers were provided with coupons entitling them to so much bread, so much cloth, and so on; and the coupons, as they came in to dealers, were counted by government agents. Efforts were made also to prevent producers, such as farmers, from holding out unduly large amounts of their products for themselves and their friends. These details occupied hosts of officials, and gave rise to more or less graft. At the same time, serious problems of principle were raised.

DISTRIBUTION ACCORDING TO NEEDS

In the determination of the amounts of commodities to be rationed to different persons, the emphasis fell on relative need, not on comparative purchasing power. Thus it took the World War to bring into effect the principle of distribution which the Prince of Peace had urged Chris-

¹¹ In Austria, as G. A. Schreiner points out in *The Iron Ration* (1918), the victim of the assault was sometimes the dealer. This was partly because the authorities at first allowed maximum prices to be evaded. The idea was to wink at profiteering, and then either tax the profiteers heavily or oblige them to buy large amounts of war bonds. But the people realized this, and their wrath rose to such a pitch that dealers had to be stopped from holding out stocks and selling after hours at fancy prices. The "zoning" system, briefly described above, was adopted.

tians to practice at all times. As applied to consumption goods, the "need" principle had the effect of making personal distribution much less uneven than is true in times of peace. But its application presented great difficulties. "Supply" and "demand" now had new meanings. Supply meant the amount available for rationing. Demand meant the amount buyers were ready to take as a result of two things—the maximum price set, and the rations allowed. Since it was humanly impossible to make demand and supply just equal, it was necessary to decide which way the excess should normally lie. To allow demand to exceed supply would be to invite the very trouble which it was the main object of rationing to prevent. Therefore the tendency was to restrict rations enough so that supply would probably somewhat exceed demand. This left the problem of disposing of excesses. Surpluses of commodities like sugar, which would keep, could be carried over and added to the supply of the next rationing period. But surpluses of perishables, such as milk and fruit, had to be disposed of at once to prevent waste. Sometimes they were transferred to other zones, turned over to charity, or sold to people already having their full rations; but no wholly satisfactory scheme of disposal could be devised.

In the distribution of production goods, the principle followed was again that of relative needs. In general, there was a choice between two methods. One method was that of totally prohibiting certain uses of production goods. To illustrate its weaknesses, suppose our production good is leather. Even during a war of exhaustion it may be more important to use a little leather for nonessentials like brief cases than to use it all for essentials like army shoes. Besides, any type of production which is completely cut off will have to start from scratch when peace is resumed. A committee appointed by President Wilson to study the "prohibition" method gave up the idea of pronouncing any uses of production goods wholly nonessential. The second method, and the one generally employed in practice, was that of distributing production goods by "priorities," namely, according to a preference scale intended to indicate the relative importance of products and the comparative urgency of particular orders for goods. In judging relative importance, it is clear that the peacetime tests of comparative rates of return could not be used. It was ruled out by price fixing itself, and it would have been too slow and uncertain in any event. The authorities had to be guided by "technical" judgments respecting physiological needs, the preservation of morale, and all the other requirements created by the ever-shifting character of war.

It is certain that rationing is closely related to price fixing. But it is

not by any means certain that rationing could be avoided by substituting profits taxation for price fixing. In a war of exhaustion, a government must ration certain supplies to itself. And, after its own supplies are withdrawn, many commodities are almost certain to be so scarce as to make their rationing imperative. This outcome is hardly to be escaped unless the inequality in the personal distribution of income is drastically reduced. If rationing is a special difficulty of price fixing, it is a difficulty which is not likely to be avoided in a great war.

Conclusions

Price fixing during the World War was undoubtedly sweeping and complicated. Even in the United States, which was engaged only nineteen months, about two-fifths of all prices were controlled, directly or indirectly, before the conflict ended. The elaborate government machinery set up for the regulation of consumption, manufacture, credit, inland and ocean transportation, and the disposal of man power, bore a striking resemblance to the "totalitarian" systems of Russia, Italy, and Germany. In Europe, commandeering and rationing went to still greater lengths. They were again invoked by Germany in order to prepare for the War of 1939. Before a year of this conflict had elapsed, England had become virtually a military dictatorship in everything except the retention of the power of the people to select their dictators. The United States, as the extent of its economic participation in the war continually increased, moved steadily in this direction. Our formal entry into the War was soon followed by intensified centralization of economic control in the War Production Board.

It is difficult to escape the conclusion that participation in a great modern war points logically to the public operation of industry on a wide scale. Otherwise the difficulties of controlling, at one and the same time, the outputs of different products and the returns of the industries which produce them, would seem to be well-nigh insuperable. As we have seen, the government of a warring country is compelled not only to limit the prices of many products but also to conscript certain supplies of the products for its own use. The commandeering of supplies becomes necessary because the government could not by any other method make sure of getting the indispensable quantities. But conscription can hardly be confined to finished products and raw materials. Apparently it must be extended to agents of production—to factories, fields, mines, and labor. ("Conscription" exists when public authority prescribes the use of the agent and sets the rate of return. Any particular method of securing these general results is conscriptive.) The reason is that, unless this is done,

there can be no assurance that production, in the face of limited prices and limited returns, will prove adequate for either particular goods or commodities in general.

The enormous sacrifices required for the successful prosecution of a modern war make it necessary to systematize the sacrifices so that they will be equitable from person to person and from class to class. For instance, we cannot well secure military conscription while securing the services of capital by the profit bait, thus treating private property as if it were more sacred than human life. This arrangement is not merely unjust. It is impracticable. We cannot expect millions of young men to face the risks and squalor of military service for a dollar a day when they know that businessmen, and even laborers, are being rewarded with relatively high incomes. It is no doubt true that a national cause is capable of eliciting remarkable sacrifices. Nevertheless, it is necessary that the cause be generally regarded as truly national. And this can hardly be the case where it is apparent that some groups are sacrificing out of all proportion to others. A system of "vested interests," although it may work reasonably well during peace, is simply incompatible with the efficient waging of war. The logical alternative to it is the national conscription of all resources, capital as well as soldiers and workers, at low rates of return. And for all practical purposes this means the public operation, not merely of military activities, but of important industries in general. In a large part of our economy the occasion requires the substitution of public authority for the price system as a general instrument of control over production and distribution.

PROBLEMS

1. There is a strong popular demand for the regulation of American business incomes in the present war.

(a) Without such regulation, what would probably happen? Why?

(b) As a rule, the method of regulation advocated is that of limiting incomes by means of profits taxation. Does this seem to you the best method available? Explain.

2. Explain why the setting of maximum prices (a) tends to spread out from commodity to commodity; (b) tends to spread, in the case of any given commodity, from one stage of production and sale to another.

3. Discuss the meaning taken on by "supply" and "demand" when price fixing has led to rationing. Why should it lead to rationing?

4. Price fixing has to be accompanied by government commandeering.

(a) Explain why.

(b) Would the commandeering probably be avoided under the alternative policy of profits taxation?

5. (a) On what general principle were consumption goods rationed out during the First World War?

(b) Answer the same question for production goods.

6. Discuss the relation of price fixing to the regulation of exports and imports.

7. In connection with rationing, what is meant by a "zoning system"? Why is such an arrangement likely to be necessary?

8. In the rationing of production goods, which method is preferable—the complete prohibition of certain uses of the goods, or the establishment of priorities among different uses? Explain.

9. Is it likely that commandeering and rationing could be avoided by using the method of profits taxation, instead of the method of maximum prices, as a means of controlling incomes? Explain.

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XVIII

"SURPLUS" INDUSTRIES: *THE PLIGHT OF THE FARMER*

Industry, labor, and agriculture are already organized, not completely, but enough to indicate the direction of progress. Each is getting ready to do its part to prevent production, in a mad race to grab a larger share of a shrinking total income. If this goes on, like three snakes swallowing one another tail-first, these three organized powers will eat one another up and the capitalist system of free enterprise will have committed suicide.¹

THUS FAR, we have been studying situations in which the object of public control has been mainly that of holding prices down and outputs up. Now we turn to the case of "surplus" industries, which chronically produce too much to sell profitably, and which are regulated chiefly for the purpose of holding prices up and outputs down. To be sure, the first part of this statement is open to challenge. It may not be true, in every case, that the output would have been unprofitably large without public regulation, or that the authorities were content to stop the limitation of output at the point where the industry could get the general rate of return. But the last part of the statement is hardly to be questioned. Certainly the regulators have sought to restrict supply and support prices. The present discussion will begin with a few foreign experiments. Then the efforts to relieve the plight of the American farmer will be considered at greater length.

Foreign Experiments

The objects for which foreign governments have tried to hold up the prices of certain commodities have been mainly two—to raise public revenue, and to increase the profits of producers.² Whatever the object, success in regulating the price turns on the ability to control the supply. For example, the short-lived attempt of Argentina to set minimum prices

¹ D. C. Coyle, *Roads to a New America*. Boston: Little, Brown & Company, 1938, p. 137.

² See B. B. Wallace and L. R. Edminster, *International Control of Raw Materials* (1930), and P. T. Moon, *Imperialism and World Politics* (1926), pp. 546–50.

on exported cattle broke down because Argentina accounted for too small a part of the total supply to make her restriction of exports effective. The main result was to ruin the export trade.

CAMPHOR AND NITRATE

Export restrictions designed to raise public revenue are illustrated by Chile's nitrate control and Japan's camphor control. In the case of nitrate, the industry is a private one; but monopoly has been encouraged by the government, which is represented on the directorate of the trust and has given it the benefit of low freight rates. Public revenue has been raised by imposing export taxes on nitrate, and the taxes have had the additional effect of making nitrate more expensive to foreign buyers. In the case of camphor, the Japanese government itself has operated a monopoly, putting the proceeds in the public treasury. In both cases, the natural products have been subjected to the competition of synthetic products. Camphor, which is used for medicine and for the production of celluloid, once came almost wholly from camphor-laurel trees. But the production of synthetic camphor from turpentine has increased until at present the synthetic product is nearly half the total output. Sodium nitrate, which is used for fertilizer, nitric acid, and explosives, once came mostly from natural deposits in Chile. But the production of synthetic nitrate, by the fixation of nitrogen from the air, has grown steadily. On the eve of the First World War, synthetic nitrate was around half the total supply, and now it is something like four-fifths. The competition of the synthetic product was instrumental in breaking down the Chilean nitrate monopoly in 1927. The failure to control the supply defeated the effort to control the price. Two years later an agreement to control output and prices was entered into between Chilean producers and the producers of synthetic nitrate in Britain and Germany.

Export restrictions designed to increase the incomes of producers are illustrated by the Franco-German potash combination, by the British "Stevenson Plan" to control rubber, and by the Brazilian "valorizations" of coffee. Potash and coffee were controlled largely by withholding output from the market, whereas rubber control involved also an attempt to reduce the total output.

POTASH

Before the First World War, Germany had a practical monopoly of potash. The control took the form of a selling pool which sold for all producers and allotted a quota to each. However, in the frequent revision of quotas, the fact that the pool's officials were guided by relative

amounts of productive *capacity* encouraged producers to open up new and inferior mines. The result was costly production, although actual sales were restricted enough to make profits high in spite of excess capacity. After the War, when France took important sources of supply away from Germany, the business was split between the two countries. The Franco-German pool allotted quotas, fixed foreign and domestic prices, and controlled output. Apparently costs, which were reduced by abandoning inefficient mines, were enough lower than those abroad to make the output control effective. Although there was not much discrimination against foreign buyers, profits ran fairly high. In 1928, for example, the Germans realized from 12 to 22 per cent on their investment.

COFFEE

Coffee control has not been so successful. Brazil produces about two-thirds of the world output of coffee, and of this amount the State of São Paulo turns out three-fourths. Brazil has the advantage of producing a "strong" variety of coffee which is in popular demand. At the same time, she labors under two handicaps—the industry is overextended, and the size of the crop fluctuates extremely from one season to another. The essential principle of the "valorizations," which began in 1905, was this: When the price was threatened by a bumper crop, the government bought up and withheld from export enough coffee to keep the price at a profitable level. The idea was to release the surplus from storage during years of lean crops. To get funds for these operations, the authorities used export taxes, and even resorted to foreign borrowing. After a few trials, the plan was well enough regarded to be put on a supposedly permanent basis in 1925. Eventually, however, the piling up of huge surpluses made it impracticable to maintain the desired prices, and valorization was abandoned.

RUBBER

The British control of plantation rubber ended in flat failure. Beginning about 1910, it was alleged that production, which had been stimulated by the growing demand for automobile tires, had become so excessive as to threaten the plantations of British East India with a crisis. From 1912 to 1921, at any rate, the price of rubber fell from \$1.12 to \$0.16 a pound. In 1922, accordingly, the authorities undertook to support the price by limiting exports to a certain percentage of the estimated "standard" capacity of the plantations. Using export taxes as a means of control, the plan was to restrict exports by 13 per cent to 20 per cent

of the "standard" as the London price of rubber fell, and to increase exports as this price rose. At one time, a restriction of 35 per cent was imposed. Since the British producers originally accounted for about two-thirds of the world output, and since the limitation of supply occurred while "balloon" tires were increasing the demand for rubber, the planters were at first in clover. The price went as high as \$1.21 a pound in 1925, but it did not last. The control over supply collapsed, not merely because the outputs of the included planters were not regulated vigorously enough, but because outside producers, especially the Dutch, were not included in the scheme. Under the pressure of independent competition and a falling market, the British producers themselves abandoned their restriction of output. Hammered down by increased supply, and pulled down by the restriction of American demand, the price dropped heavily, hitting \$0.41 in the summer of 1926. The long-run results of the plan were mainly two—a great increase of supply, and the transfer of a large share of the world market from the British to the Dutch.

CONCLUSIONS

The problem of supporting the price of any commodity, where the demand is mostly beyond control, is of course essentially that of controlling the supply. And it is the control of supply which more often than not has proved the stumbling block in practice. In the early 1930's, attempts by the Japanese government to support the price of silk, of the French government to support the price of wheat, and of the International Sugar Council to support the price of sugar, broke down mainly because no adequate control could be applied to supply. The failure, time after time, to adjust supply to demand prompted one writer to state that price-fixing experiments are of two general kinds: those which have failed, and those which are going to fail.³ Nevertheless, our Department of Agriculture, as we shall presently see, faced a situation so grave that it undertook to control the outputs of certain American farm products.

The Plight of the American Farmer

The seriousness of the American farm problem was brought to public attention with spectacular force in the spring of 1933. Alarming methods were being used to thwart mortgage foreclosure sales: Under one method of intimidation, the farmers who were gathered at a sale would threaten violence to anybody attempting to put in a low bid. Under another method, they would dare anybody to bid more than a nominal sum.

³ Cited by Jules Backman, *Adventures in Price Fixing* (1936), p. 55.

Then a friend of the dispossessed farmer would buy in the property for a few dollars and turn it back to the original owner. Iowa for a time used troops in an attempt to prevent this brazen violation of law. Later it passed a law suspending foreclosures. A Judge Bradley, of Le Mars, questioning the constitutionality of the new law, tried the policy of foreclosure-as-usual. He was dragged from his home and threatened with hanging. The incident, although not typical, was worth consideration as a symptom. Suffering from the successive blows dealt by drought, hail, grasshoppers, depression, debt, and dilatory congressmen, the children of misfortune seemed to be nearing the end of their patience.

THE FLIGHT

As the news of rioting in the North Central states reached Washington, the relief measures of 1933 were being whipped into shape for application. The situation to be dealt with was roughly this: American farmers were in debt to the extent of about \$8,500,000,000, an amount equal to half the total value of farm land and buildings in the country. The debt had been reduced by nearly \$1,000,000,000 since 1928, but most of the reduction had taken the form of foreclosures. Since the farms under mortgage did not amount to a majority of all farms, the debt was heavily concentrated. Judging by reports which it received from 17,000 farms, the Department of Agriculture estimated that, out of every 1,000 mortgaged farms, 50 were mortgaged to over 100 per cent of their value, 157 to over 75 per cent, 367 to over 50 per cent, 746 to over 25 per cent. The debt had been incurred largely when the prices of farm products were 4 times as high as they stood in the spring of 1933. The debt-free farmers could stagger along somehow, but 3,000,000 others did not make enough to pay their taxes and the interest on their mortgages. A large part of our greatest single industry, an industry providing homes and a living for a quarter of our entire population, was prostrate.

The depression, of course, had dealt a staggering blow. Between 1928 and 1933, the net incomes of farmers had dropped from \$5,000,000,000 to \$1,500,000,000, a decrease of two-thirds. But the trouble was older than that. In 1929, before the depression had had much effect, the average income of those living on farms had been only 36 per cent as great as the average for Americans in general—about \$271 as compared with \$752. At no time for forty years had the income of the farmer come up to the general average. Only once had it come close. That was during the First World War, and shortly afterward. The rest of the time it had ranged from about one-third to one-half the average.

CAUSES OF FARM SURPLUSES

In any industry it is to be expected that supply and demand will always be more or less out of line. This is because the conditions of supply and demand change, and an excess one way or the other cannot be eliminated instantly. What calls for special explanation is the persistence of an excess in one direction. It would seem that a low rate of return ought to get rid of excessive investment in farming in the long run. But in fact a low rate of return has had a long time to do this and has not succeeded. Indeed, at the end of forty years of excess the conditions were the worst in history. The explanation is to be found in two closely related sets of factors. On the one hand, the forces speeding up supply and slowing down demand have been strong. On the other hand, the forces of readjustment have been weak.

SUPPLY

Supply has been speeded up. Per capita production of farm products increased at least 60 per cent from 1880 to 1925. In this period the total acreage under cultivation nearly doubled, while the total output more than doubled. Some of the American acreage increase came about as a result of the First World War, which threw much European land out of use and drained man power from the farms to military service. Wheat production alone absorbed several million additional acres in America. After the War, the march of improvements became unusually rapid. The number of tractors used on our farms rose from about 80,000 in 1918 to approximately a million after 1930. The number of combines, machines which combine reaping and threshing, was increased more than tenfold within an even shorter period, rising from about 1,500 in 1924 to 17,000 in 1930.

On the supply side, perhaps the following factors contributed more than others to put farming in a vulnerable position. First, the high prices of the war period—for instance, a minimum price of \$2.20 was set for wheat—led to the purchase of much land at inflated valuations and with borrowed money. Second, a great deal of poor land was being used. Some of it had become “marginal” because better land had been opened up, and some of the new land brought under cultivation during the prewar and wartime expansion was itself poor. Third, farming operations were typically small scale, and management was often inefficient. All these factors made for high cost. Fourth, annual fluctuations of output are great. Changes in yield per acre, rather than changes in acreage, are mainly responsible for this fact. For the output fluctuations of various

crops occurring from 1905 to 1925, variations of yield were responsible as follows: spring wheat, 95 per cent; corn, 85 per cent; oats, 63 per cent; cotton, 60 per cent.⁴ Thus any conditions seriously limiting demand would impose great hardship on farmers working at high cost, especially if their land were heavily mortgaged.

DEMAND

Demand has been slowed down. The substitution of gasoline for draft animals limited demand at the same time that it expanded output. From 1918 to 1928 the farm population of horses and mules declined about 7,000,000, or nearly 27 per cent, thus releasing 15,000,000 to 18,000,000 acres of hay and pasture land for the production of other crops.⁵ During the 1920's the Eighteenth Amendment limited somewhat the demand for grain and hops. The European countries, not content with resuming their prewar production, embarked on programs of national self-sufficiency which called for greatly expanded outputs of foodstuffs and raw materials. They shut off our exports by means of the most severe import barriers known to history. We played the same game, decreasing their purchases here by restricting their sales. Every time the trade walls rose on either side of the ocean, the demand for our farm products tended to fall. The position of farming was made exceptionally vulnerable by the fact that the demand for farm products is in general *inelastic*. To illustrate—the small 1925 crop of 322,000,000 bushels of potatoes, selling at the high price of \$1.80 a bushel, brought in \$579,600,000, while the large 1928 crop of 462,000,000 bushels, selling at the low price of \$.61, brought in only \$281,820,000.⁶ Annual crop variations thus cause great fluctuations of income, while persistent surpluses make for protracted and severe depressions in the industry.

READJUSTMENT

Finally, the forces of readjustment have been unequal to their heavy task. The removal of resources from the production of surplus farm products is notoriously slow. Farm labor is distinctly more immobile than labor in general. The trouble is that the laborer is so often the farmer himself, who is also the landlord and the capitalist and the entrepreneur. By cords of sentiment and economic necessity he is tied to the farm.

⁴ According to Secretary W. M. Jardine, in a statement by the Department of Agriculture, August 15, 1927.

⁵ See E. G. Nourse, "Agriculture," in *Recent Economic Changes*, 1929, Vol. II, pp. 558-59.

⁶ Cited by R. T. Bye and W. W. Hewett, *Applied Economics*, Second Edition revised, 1934, p. 403, from the 1930 *Yearbook* of the United States Department of Agriculture, pp. 589-90.

It is his home, and he dislikes to leave it. Even when he wants to leave, leaving is hard. He is poor, and farming is usually the only thing he knows. He has invested much training in it, for modern farming is not the sort of occupation that requires only that a man be strong and industrious. The farmer has invested capital as well. Much of it is sunk in expensive buildings and machinery which cannot be used for other purposes.

Then there is the land. Armchair experts tell the farmer to abolish surpluses by diversifying crops. The farmer replies that they do not know what they are talking about. The fact is that the demand for any particular thing the land is adapted to produce is linked strongly with the demand for anything else it can produce. The products compete with one another. The demand for oats falls with a falling demand for corn, for barley, for wheat. Only an all-round reduction of output would meet the need. But farmers, scattered over wide areas, and individualistic by temperament, find it especially difficult to get together on any policy of general reduction. Each farmer, unless he is given some immediate and concrete inducement to limit output, is disposed to produce as much as he can, hoping that his own economies, and, perhaps, a limitation of output by others, will pull him through. Thus the thing that urgently needs doing goes indefinitely undone unless there is strong public intervention.

PALLIATIVES

Before 1933, the farmers asked Washington for what they thought was bread, and they got what they came to feel pretty sure was an assortment of stones. The worst of the discontent existed among those who were heavily in debt, and the favorite nostrum of this group was *inflation*. In the short run, a radical expansion of paper and deposit currency would help debtors, if it succeeded in raising the general level of prices. This is because debtors, along with everybody else, would have more dollars, and debts are expressed in definite numbers of dollars without respect to what the dollars will buy. In the long run, inflation would prove, at best, a palliative. It would not remove the chief source of difficulty, which is the excess production of certain commodities. If anything, it would encourage surpluses by extending relief to the very farmers otherwise most likely to quit. In any case, the farmers did not get inflation, or at least not in what they considered adequate doses.

On three occasions, both houses of Congress approved measures for *dumping surpluses* abroad with the idea of keeping home prices of farm products on a level with other home prices. Since foreign sales would be at lower prices than home sales, tariff duties were to be used to prevent

the return of exports to the home market. Under one plan, which appeared twice in somewhat different versions, the government was to buy up as much as was necessary to maintain the established home prices. Then whatever it could not sell at home at the established prices it was to sell abroad at anything it could get. To recoup its losses, it was to charge farmers equalization fees making up the differences between what the government paid and what it got. The farmers were supposed to get more from high home prices than they would have to make up in fees. President Coolidge used his veto power to prevent the adoption of this plan. Under the other plan, the government was to take money it got from import duties and use it to pay bounties on exports of surplus farm products. President Hoover vetoed the bill incorporating this plan.

Both plans were objectionable in the following respects. First, they would have burdened American taxpayers and consumers for the benefit of a particular class. In this respect, however, they were not so bad as our protective tariffs, since the farmers needed help more than manufacturers did. Second, any form of state-aided dumping causes international ill-will, and is likely to provoke retaliation which will make it unworkable. But, third, suppose these plans had succeeded, for a while, in maintaining profitable prices. Then, instead of cutting down production, they would have encouraged the production of larger surpluses than ever, until finally they would have become so expensive as to break down under their own weight. Probably most of the legislators who voted for the dumping bills knew all this, but preferred to let the White House bear the brunt of the farmer's wrath.

In 1921, 1922, and 1930, the farmers got some *tariff increases* on their products. But only very small amounts of farm products are imported, and import duties on things which would not be imported in any case are empty gestures. At the same time, increased duties on manufactures raised the prices of what farmers bought and decreased the foreign demand for what they sold.

The farmers got improved *facilities for borrowing* money. Ample provision is made for the three general types of credit ordinarily required by farmers: first, long-term credit, running up to forty years, for such purposes as paying for land and making permanent improvements; second, intermediate credit, running from six or nine months up to three years, for such purchases as livestock and equipment; third, short-term credit, running up to nine months, used typically for financing the production and storage of crops. Special institutions now operating under the general jurisdiction of the Farm Credit Administration, which in its turn is now an agency of the Department of Agriculture, are better

equipped to handle such loans than were the local money lenders, local banks, city banks, and mortgage loan companies before the improved machinery was established. Loan rates to farmers were lowered, partly because of government subsidies, and partly because the risks of lenders were reduced. The risks of lenders were reduced because, directly or indirectly, borrowers were grouped and made jointly responsible for their obligations, so that lenders need not risk the caprices of any particular region, farm, or farmer.⁷ Unlike the introduction of improved techniques of production, a decrease of loan rates reduces cost without at the same time increasing output. But it has played too small a part in the whole situation to be a fundamental cure for overproduction.

Finally, the farmers got some help with *co-operative marketing* associations. Noticing that New York hotels got more for a mutton chop than a rancher got for a whole sheep, and that farmers in general got for their products only about 30 per cent of what consumers paid,⁸ they suspected that middlemen were getting away with something. They thought they could improve matters by doing their own selling. Believing, too, that grain dealers pushed down prices when crops came to market, they wanted better facilities for storing their own grain. On both scores, marketing associations may have been justified, since competition among the regular middlemen who handle farm products is by no means "free." By 1925, over 8,000 associations, owned and operated by farmers, were engaged in storing and selling, most of them with fair success.

In 1929 Congress decided to do the job on a larger scale. It created the *Federal Farm Board*, which made large loans to co-operatives and "stabilizing corporations" whose purpose was to bring about more orderly marketing. The Board undertook to support the prices of wheat and cotton by buying up supplies and holding them off the market.

⁷ Take the case of long-term loans. The twelve Federal Land Banks lend to farmers who are members of national farm loan associations. (This is the rule, although some loans have been made also to nonmembers.) All of the ten or more farmers who comprise an association endorse the note of a farmer who borrows from a land bank. The loan is secured also by a first mortgage on land in the district, and it must not exceed one-half the appraised value of the land plus 20 per cent of the value of insured permanent improvements. In short, all members of an association are jointly responsible for a loan to any member. Also the twelve land banks are jointly responsible for what they borrow. A great part of their loanable funds comes from the sale of their own bonds. These bonds are the joint responsibility of all twelve land banks. Further, they are jointly secured, since they are backed up largely by the first mortgages on which farmers borrow from land banks. Moreover, each loan association owns stock in the land bank of its district equal to 5 per cent of the total loans extended by the bank to the association's members, this stock being purchased from the proceeds of the sale of a like amount of the association's stock to its members. The element of joint responsibility exists also in the case of the intermediate-term loans made by the twelve Intermediate Credit Banks and the short-term loans made by the twelve Production Credit Corporations.

⁸ See Arthur Capper, *The Agricultural Bloc* (1922), pp. 51 ff.

The intention was that the supplies would later be fed gradually into the market as prices improved. But the Board was left by the depression with huge stocks which it could not sell except at heavy losses. It had done valuable work in the promotion of co-operatives, but it had failed to support prices. Even without a depression it would have failed, because its activities were such as to encourage rather than discourage the production of surpluses. It was abolished in 1933 to make way for the most sweeping experiment ever attempted in the control of farm prices.

Crop Control: The Act of 1933

In 1933 Washington got closer to the principles of the problem. First giving indebted farmers a breathing spell by enabling them to refund mortgages at lower rates of interest, it undertook to raise farm income. In order to do this, it was necessary to increase demand, or reduce output, or both. But the prospect for increasing demand substantially in the visible future was a poor one. The factors explaining the deficiency of demand were deep-seated. There was little hope, for example, of an early removal of the abnormal barriers to foreign trade. Accordingly, the main emphasis of the Agricultural Adjustment Act of 1933 fell on the reduction of output.⁹

THE BONUS SYSTEM

It was further recognized that farmers would not reduce output merely because each farmer knew that he would be benefited if all reduced output. It was necessary to give the individual farmer a direct inducement to cut down. The basic products whose outputs were to be reduced included wheat, cotton, field corn, rice, tobacco, rye, barley, flax, peanuts, potatoes, grain sorghum, sugar, milk and its products, hogs, and beef and dairy cattle. Two general forms of benefit were used as direct inducements to curtail output: rental payments on land left out of use and bonuses based on restriction of acreage. The latter form was

⁹ Crop reduction was not the main purpose of the so-called marketing agreements between the Secretary of Agriculture and organizations which handled farm products in interstate and foreign commerce. The main purpose was to regulate the marketing of what was produced. Nevertheless, control extended to production as well as marketing, and the control of production might have been of great practical importance had the agreements not been voluntary and, as a rule, short-lived. The agreements related to such matters as improving marketing machinery, deferring shipment or sale, terminating the marketing of a crop before the whole of it was sold, diverting commodities to use as by-products or to lower-priced markets, reaching price agreements, regulating trade practices, and even controlling current or future production. It will be noted that in effect these restrictions bear a resemblance to monopoly. Further, the diversion of commodities to by-products or lower-priced markets amounts to the practice of "discriminating monopoly." For details, see E. G. Nourse, *Marketing Agreements under the A. A. A.* (1935).

the more important in practice. Its general principle may be illustrated as follows with the case of wheat.

The price of wheat is to be raised to the point where one bushel has the same purchasing power, in terms of other commodities, that it had, on the average, from August, 1909, to July, 1914. The price (spring of 1933) stands at \$.50, but the price must be raised to \$1.00 in order to restore the prewar "parity" just described. For the last 3 years your wheat acreage has averaged 200, and the output has averaged 25 bushels an acre, making your total average output 5,000 bushels. Now you, along with other wheat growers, are asked to reduce your acreage by 15 per cent. Your direct inducement to do so is this: For all the wheat you produce you will get the market price. For 54 per cent of your average output (because an average of 54 per cent of the total American wheat output is consumed at home) you will get not only the market price but also a bonus equal to the difference between the market price and the parity price.

Now assume that the price of wheat, when you come to sell, is \$.75, and that you have the average yield of 25 bushels an acre. If you comply with the request (namely, enter into a contract with the government) to reduce acreage by 15 per cent, your output is 4,250 bushels. At the market price of \$.75 this brings you \$3,187.50. In addition, you get \$.25 a bushel (the difference between the parity price of \$1.00 and the market price of \$.75) on 2,700 bushels (54 per cent of your average output of 5,000 bushels). This comes to \$675. Your total receipts are thus \$3,862.50. If you do not enter an acreage-reduction contract, you produce 5,000 bushels, which, at \$.75, brings you \$3,750. Accordingly, you increase your receipts \$112.50 by co-operating in the reduction program. Besides, you are spared the expense of cultivating the 30 acres which you leave idle.

PROCESSING TAXES

The money required to pay bonuses was raised by processing taxes collected from the first processors of the commodity in question. In the illustration used above, the first processors would be flour millers. The processing tax would be 25 cents a bushel, and it would be shifted, in the form of increased prices, to the consumers of wheat products. Actually, the farmers contracting to reduce their 1934 wheat crop were called on to reduce acreage by 15 per cent. Taking into account the fact that many farmers rejected the proposal, the acreage harvested declined by only 11 per cent as compared with 1933. The bonuses, at the rate of 30 cents a bushel, totaled \$120,000,000. For the 1935 crop, the plan called for a

10 per cent reduction from the base acreage, and for a bonus of 33 cents a bushel.

RESULTS

The practical value of a plan which operated such a short time, and under such abnormal conditions, cannot be estimated accurately. On January 6, 1936, the Supreme Court held the processing taxes to be unconstitutional. The grounds for the decision were such as to lead to the substitution of the new program which is outlined below.¹⁰ Meanwhile there had been severe drought in the Middle West and Great Plains. Also there had been a substantial degree of recovery from the depression and an increase of prices in general. Farm income undoubtedly rose. The Chicago price of wheat, which had stood at 52 cents in 1932, climbed to 95 cents in 1934, and the prices of other basic farm products rose greatly. Farmers in the Northeastern states benefited the least, and tobacco growers the most, with cotton and wheat producers coming next in order. In general, the co-operating farmers, who benefited by both higher prices and bonus payments, came off better than non-co-operators, who benefited only by higher prices. Bonus payments came to \$780,000,000 for cotton and \$356,000,000 for wheat, for the duration of the crop-reduction plan. But it was clear that drought had more to do with the outcome than voluntary crop reduction had, and the powers of voluntary reduction could not be measured without a longer test. In evaluating the plan, therefore, it is necessary to rely mainly on general reasoning.

CRITICISMS

Unless and until the demand for our farm products is greatly increased, the restriction of output is justified, *provided* the resources thus extruded from farming are put to a more economical use. The oft-heard complaint that it is wrong because it is "based on a philosophy of scarcity" is vague. Economy itself is based on a philosophy of scarcity, in the sense that everything should be scarce enough without being too scarce. In a world containing more than one product, scarcity is a relative matter. Farm products have been chronically too plentiful *in relation to other products*. The consumer needs comparatively less of farm products

¹⁰ The majority said that the taxes were incidental to the regulation of agricultural production, that this federal regulation invaded rights reserved to the several states, that Congress must not purchase compliance which it had no right to enforce, and that such a use of the taxing power would permit the government to regulate all industries. The minority said that the processing taxes should be upheld as a legitimate use by Congress of its right to spend money in the general welfare. The decision seemed to put the regulation of agriculture in the famous "no man's land" where the federal government must not act and the states cannot act effectively.

and comparatively more of others. Nevertheless, the procedure of the Agricultural Adjustment Administration was faulty in several respects.

First, the prewar parity of prices was not the right goal. The proper amount of restriction was the amount required to make farm products sell at postwar costs, not at prewar parities. There was no reason for supposing that the two were the same thing. Second, the bonus system gets weaker as the desired market price is approached. The bonus becomes smaller, so that the individual producer is more strongly tempted to produce his full output and leave restriction to the other fellow. Especially is this true in the case of a farmer who has just put himself to the expense of opening up new land. Third, the method of acreage reduction was wasteful. Any sizable reduction of so much *per farm* has the result that the worst acres withdrawn from some farms average better than the acres left in use on other farms. The poorest man in the yacht club is better off than the richest man in the poorhouse. Restriction should be based, not on individual farms or farmers, but on the whole farm area, even though this would require a thorough survey of land resources and no inconsiderable reshuffling of the locations of farmers. The program was wasteful also in failing to make the best use of land and other productive agents withdrawn from basic crops. To a great extent, certain acres became simply unemployed, and certain men and capital instruments became underemployed. It is better for productive power to produce valuable goods which are relatively too plentiful than to produce nothing at all. Fourth, the money for bonus payments should not have been raised by processing taxes. These taxes were "regressive." That is, they hit the poor harder than the rich. They did this because they raised the prices of essential commodities, such as food-stuffs and cotton textiles, which bulk larger in the purchases of the poor than in those of the rich. If bonuses were to be paid, the funds should have come from public funds raised by progressive taxation.

Control over basic products may have been weakened by leaving too many other products uncontrolled. The failure to establish international control over products sold in the world market—for instance, an international pact to restrict wheat production broke down—increased the difficulties of national regulation. The more a domestic price is raised above the world level, the higher must be the tariff duties, or other import barriers, which are used to protect domestic products from foreign competition in the home market. The control program also discriminated against tenant farmers, in the sense that it left them out. Tenants are not helped, while landowners are helped, by a policy which raises prices, rents and land values. Rightly or wrongly, it was charged that many

tenant farmers, especially in the South, were displaced by falling acreage and rising rents. Finally, there was the complaint that the local committees which administered the program of reduction, although they tried to limit the use of additional fertilizer, did not go so far as desirable in preventing more intensive cultivation of the land remaining in use. Even the Secretary of Agriculture himself, it was contended, owned much stock in a seed company which encouraged a more intensive use of the land in question. But the tenant-farmer criticism, and the intensive-cultivation criticism, merely bring us to the most fundamental weakness of the whole program. This weakness lay in the fact that the method of reducing the output of relatively overabundant products was not, as it should have been, that of transferring certain productive power to fields where it was more needed. Instead, the general method was, in practice, that of creating "unemployment" among the agents of production. The complaint about the tenant farmers should have been, not that the tenants were displaced, but that the tenants were not given proper help in finding more useful employments. Likewise it is a good thing to use fertilizers and seed in such a way as to increase the productivity of cultivated land. The trouble was that, the available technique of production being what it was, not enough land was transferred from controlled crops to the production of commodities for which the relative demand was greater.¹¹

Agricultural Adjustment Since January 1936

The Supreme Court did not leave much of the 1933 farm control program. There remained certain provisions relating to sugar quotas, and to marketing agreements designed to stabilize the sale of commodities;¹² but the crop-reduction feature, the heart of the plan, was gone.

SOIL CONSERVATION

The reaction was prompt. A month after the old arrangement received its deathblow, a new beginning was undertaken under the Soil Conservation and Domestic Allotment Act. This measure seeks not only to conserve our soil from erosion but also to reduce surplus crops by retiring land for conservation purposes. Since the old plan was ruled

¹¹ A general appraisal of the restriction program was undertaken by the Brookings Institution, Washington, D. C. See the report of E. G. Nourse, J. S. Davis, and J. D. Black, *Three Years of the Agricultural Adjustment Administration*. The report is based on separate studies made by J. S. Davis, *Wheat and the A. A. A.*; H. B. Rowe, *Tobacco under the A. A. A.*; E. G. Nourse, *Marketing Agreements under the A. A. A.*; J. D. Black, *The Dairy Industry and the A. A. A.*; D. A. Fitzgerald, *Livestock under the A. A. A.*; and H. I. Richards, *Cotton and the A. A. A.*

¹² See the footnote on marketing agreements, page 305.

unconstitutional largely on the ground that it gave to the federal government the control over agriculture which belonged properly to the states, the states were made the agents responsible for the new plan. The states most concerned adopted a standard soil-conservation law drafted by the Department of Agriculture. The former bonus for acreage reduction was replaced by "grants-in-aid," paid out of public funds, to farmers who would carry out such conservation measures as terracing land, practicing strip-cropping, repairing gullies, and transferring land from basic products to legumes and pasturage. The Soil Conservation Service, under the Department of Agriculture, undertook to conduct demonstration projects throughout the country, and began to map farms in such a way as to show how the different parts should be used. Although the states were not to assume full responsibility until 1942, it is clear that the new plan was designed to lessen several weaknesses of the old.

THE "EVER-NORMAL GRANARY"

The Agricultural Adjustment Act of 1938, commonly termed the "ever-normal granary" plan, was designed to continue and strengthen the Soil Conservation Act of 1936, and also to render special assistance to producers of cotton, wheat, corn, tobacco, and rice. Its main provisions are the following.

First, all farmers remain eligible to participate in the soil conservation program, and, subject to its requirements as to methods of farming, to receive its cash benefits.

Second, farmers producing the five designated crops are made eligible, by planting within their acreage allotments, to receive parity payments and crop loans—when these payments and loans are available and when they are offered. The Department of Agriculture sets the total acreage for a crop, trying to set it in such a way as to meet the requirements of normal domestic consumption and export and to provide a carry-over which will protect consumers from the risk that a subsequent crop will be abnormally small. County agents and associations have the task of allotting quotas to individual farmers. "Parity" is defined in two ways by the act. As applied to *prices*, it means the price which gives the farm product in question the same purchasing power, with respect to commodities which farmers buy, that it had on the average from August of 1909 to July of 1914 (or from August of 1919 to July of 1929 in the case of tobacco). As applied to *income* it means that per capita net income of individuals on farms from farming operations that bears to the per capita net income of other individuals the same relation that prevailed on the average from August of 1909 to July of 1914. Parity

payments are only authorized. The act contains no provision for financing them. Their size depends on what Congress cares to appropriate for them. Crop loans up to a designated per cent of the parity price of the product in question (up to 85 per cent of the parity price of wheat, for example, in the summer of 1941) are made, on the security of the crops themselves, when supplies rise above specified levels or prices fall below specified levels. Since the borrower is permitted to forfeit the security instead of repaying the loan, the loans amount to guaranteed minimum prices. The crop which is put up as security is stored on the farm or in approved warehouses. Storing crops during periods of plenty and releasing them in periods of scarcity is part of the plan for the "ever-normal granary."¹³

Third, marketing quotas come into effect if, despite acreage control, supplies exceed normal by so much as to threaten market prices, and if the quotas are approved in a referendum of the producers of the crop in question. Marketing in excess of quotas is subject to a penalty per bushel or per pound. Surpluses over quotas are supposed to be stored—to go into the "granary"—until market conditions are favorable to their release.

Fourth, wheat farmers are protected by crop insurance from losses from such unavoidable natural causes as bad weather, flood, insects, and plant diseases. Insurance premiums are paid in wheat, which is stored until the authorities release it. For the maximum insurance coverage of 75 per cent of the normal crop, premium rates range from half a bushel an acre in low-risk areas up to two and one-half bushels an acre in high-risk areas. Insurance benefits are paid in either actual wheat or its cash equivalent. Wheat which is taken for storage as insurance premiums cannot be marketed except to cover crop losses. Any of this wheat which is sold to prevent spoiling, or in order to move reserves to another location, must be replaced promptly with other wheat. Thus insurance is a further contribution to the "ever-normal granary" plan.

CONCLUSIONS

It is not improbable that the conditions of war will create an abnormally large demand for American staple crops, thus obscuring the results of the current farm program. But with respect to normal conditions it is clear that the program of the late 1930's has been, in actual practice,

¹³ Commodity loans are available not only to co-operators, or farmers who plant within their acreage allotments, but also to non-co-operators. In the latter case, however, they are made only when *marketing quotas* (described below) are in effect, and they apply only to so much of the commodity as would be subject to penalty if it were marketed, and the rate is only 60 per cent of the rate which is applicable to co-operators.

more similar to a political palliative than to a fundamental economic remedy. In practice, the program has strongly resembled a monopoly which restricts output while permitting the entry of productive power into the field. That is to say, certain resources, while being prevented from producing a given commodity, have not been allocated logically, if allocated at all, to the production of other commodities. As a method of raising the personal incomes of farmers to the general level, it would be better not to link reduction of farm output with the existing subsidy to farmers. It would be better, in other words, to have certain productive power produce crops when the alternative is to leave the productive power unemployed or underemployed.

There is justice in the complaint that farmers are being pampered. To ascribe the immobility of farmers to the fact that farming is a "way of life" is the same as saying that farmers are paid partly in "spiritual dividends"; and, if this is true, it is hardly reasonable to require that farmers should also get economic dividends at the full rate which prevails in other fields where the psychic returns are presumably smaller. However, the basic trouble is that pampering itself has been made a way of life on altogether too large a scale in our whole economy. Industry has been pampered by protective tariffs and monopolistic restriction of output, and organized labor has been pampered by monopolistic restriction of numbers and output. In both cases, too, restriction has caused unemployment of the factors of production. Organized agriculture is merely undertaking to do what organized industry and organized labor did before it: to increase its share of the national income by methods which decrease the national income. This is not really economics. It is politics. What is needed is the abolition of the politics of pampering.

Such are the leading principles and practices involved in regulating the prices charged by "natural monopolies," by "war" industries, and by "surplus" industries. To form some idea of the possible scope of price regulation in the future, we shall next review American efforts to enforce "rugged individualism."

PROBLEMS

1. Under what conditions can a monopoly in one country control the price of a product in the world market? By way of illustration, discuss the purposes, methods, and results of the national or international controls applied to nitrate, potash, coffee, and rubber.

2. Explain the meaning and persistence of "farm surpluses" in the United States.

3. As remedies for the plight of the farmer, discuss (a) currency inflation; (b) dumping surpluses abroad; (c) increasing the import duties on farm products; (d) improving facilities for agricultural credit; (e) developing the co-operative marketing of farm products; (f) withholding surpluses from the market without preventing their production. (g) In your opinion, how, if at all, is American farm income to be raised substantially and permanently? Explain.

4. Explain the essential principle of the farm program of 1933. Describe the procedure.

5. In evaluating the AAA program, on which would you mainly rely, facts, or theory? Explain.

6. Criticize the following features of the AAA program: (a) the goal selected for price raising; (b) the method of reducing acreage; (c) the disposal of land withdrawn from basic crops; (d) the processing taxes.

7. Was the policy adopted under the Soil Conservation and Domestic Allotment Act well designed to remove any of the leading weaknesses of the act of 1933? Explain.

8. Describe the essential features of the Agricultural Adjustment Act of 1938. Discuss each of the features in terms of the main objectives which are presumably, sought.

9. Briefly outline and explain the main features of a proposed American farm program of your own.

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XIX

"TRUSTS": *REGULATED COMPETITION*

It may still be claimed, as the teaching of experience as a whole, that laws aimed directly at "maintaining competition" have very small prospect of succeeding in their purpose.—A. C. PIGOU.¹

Introduction

UNTIL 1933 it seemed fair to call the direct public regulation of prices an exception to the general rule. The sweeping wartime regulation did not last long. During peacetime there was little direct regulation of "surplus" industries, while regulated public utilities did not include the bulk of American industries. But there was an enormous amount of indirect regulation, taking the form of an effort to make competition work. These efforts were of two different types. On the one hand, public authorities tried to suppress monopoly—to prevent monopolistic combinations from being formed, and to break up combinations which already existed. On the other hand, they tried to preserve "potential" competition. The idea was that certain huge concerns, if they were not allowed to use unfair methods, would hold their prices down in order to keep competitors out of the field. In the general policy of regulated competition, therefore, a rough but important distinction was drawn between "good" and "bad" combinations. The distinction was really a distinction between two different policies. The policy of suppressing "bad" organizations amounts to government backing for a "rugged individualism" which has been losing its ruggedness. When competition "begins to sicken and decay, it uses an enforced ceremony." The policy of making big organizations behave either degenerates into bluffing or becomes very similar to the direct regulation of "businesses affected with a public interest." Before undertaking to review the record of compulsory competition, we shall find it worth while to note briefly the nature of unfair practices.

¹ *The Economics of Welfare*. New York: The Macmillan Company, 1924, p. 308.

UNFAIR COMPETITION

Taken broadly, "unfair" competition means competition which is not based on cost and quality. This being the case, it is clear that unfair competition is uneconomical whether it causes monopoly or not. It either wastes resources in a stalemate, or else it distributes resources, not according to the relative merits of producers and their methods, but according to relative success in cheating. In practice it assumes two closely related forms. First, there is cutthroat competition aimed directly at rivals. Second, there is coercion aimed at third parties, for the purpose of making them handle a seller's goods on certain terms or discriminate against the goods of the seller's rivals.

Competition taking the form of cutting prices below cost of production is not necessarily cutthroat. Many companies sell below cost at one time or another, and especially when they are first getting a start in a competitive field. Further, a company which is retiring from a field because it cannot produce at a cost as low as the prevailing price is justified in selling below cost. By doing so it is able to realize something on the fixed capital which it cannot readily transfer to another field, whereas if it were prevented from selling below cost it could not even realize this "salvage value" and there would be a corresponding waste of fixed capital. Competition is of the cutthroat variety, however, when it takes the form of cutting prices below costs for the purpose of driving competitors out of business. Commonly it involves price discrimination, prices being held lower in some markets than in others. Sometimes it uses "fighting brands," such as the "Battle Axe" chewing tobacco sold by the tobacco trust. Sometimes it employed bogus independents, or firms which masquerade as being separate from the price cutter and in reality are not. Price cutting is often disguised. Buyers are given excessive discounts, rebates, subsidies. They are also lavishly entertained, and even directly bribed. Sellers resort also to misrepresentation, such as misbranding their own goods, using mendacious advertising, imitating the brands of competitors, and maligning competitors and competing products.

Among the more moderate forms of coercion directed at third parties is "resale price maintenance." Manufacturers chose their customers, refusing to sell to dealers who resell at less than the prices specified by the manufacturers. They do this in order to maintain the prestige of their products, and because they fear that the products will be dropped by dealers whom they do not protect from price cutters. Whether the practice is actually unfair depends on the circumstances. It is not unfair if it

merely keeps dealers from cutting prices below costs. It is unfair where it prevents efficient dealers from underselling inefficient dealers.² Among the distinctly objectionable forms of coercion are tying contracts, full-line forcing, and exclusive dealing. The first two are very closely related. The United Shoe Machinery Company used to refuse to lease certain patented machines to manufacturers except under contracts obliging them to use other United machines, even when the patents on the other machines had expired. The International Harvester Company would tell a dealer that he could not handle, say, its reapers unless he handled its full line, including its harrows, seeders, and rakes. It might also decline to do business with him unless he dealt exclusively with it, that is, to the exclusion of other producers of farm implements. Another weapon is the rebate. We have already seen how the old Standard Oil group used railway rebates to kill off competitors. A shipping ring of ocean transport lines employed rebates to keep shippers from using tramp steamers operated by outsiders. Knowing that shippers had to use its vessels at certain times in order to ensure prompt movement of perishable goods, the ring gave rebates to shippers who used its vessels at other times as well. This made "un-co-operative" shippers pay so dearly for their misdeeds that they were likely to come around to the ring's full line. Similar in effect to these devices is the practice of basing the buyer's discount on the *annual* volume of his purchases. It puts an unfair premium on dealing exclusively with a given seller.

Unfair practices like these played a prominent part in formulating the policy of compulsory competition.

ENFORCED COMPETITION BEFORE 1890

Before 1890 the public enforcement of competition had been left largely to the common law and the statute laws of the several states. The combination was unsatisfactory. State legislation, even had it been general, uniform, and strong, was not properly equipped to deal with a

² The courts have taken an equivocal stand in the matter. In general, they have ruled against effective *methods* of maintaining resale prices, regardless of the *economic effects* of the maintenance itself. They have refused to uphold direct agreements to maintain prices, although contracts between retailers and manufacturers, with a view to setting the retail prices of patented or trademarked goods, are specifically sanctioned by federal legislation of 1937. They have also refused to let manufacturers use effective methods of finding out where price cutters got their supplies. But what should count is the economics, not the technique, of price maintenance. Where dealers merely wish to sell according to their efficiency in handling goods, price maintenance is hard to justify. It may be unjustified, too, where the purpose of selling below cost is to get established in a competitive field or to salvage part of the investment in a field from which it is difficult to withdraw fixed capital. But where, on the other hand, selling below cost amounts to cutthroat competition, the methods of preventing dealers from cutting prices below their costs should be made as effective as possible.

matter which overlapped state boundaries. The common law—which originated in customary procedures, embodied the results of past court decisions, and set precedents for future decisions—was a weak instrument for dealing with industrial monopoly. Its weakness lay not so much in its attitude as in the means employed to give its attitude effect.

Its attitude was one of hostility toward “unreasonable” restraint of trade, regardless of the form which the restraint took. “Unreasonable” restraint meant “general” restraint. For example: a dry-goods dealer, Jones, when he sells out to a competitor, Smith, agrees not to enter the business again. If there are numerous dealers in the market where this agreement is reached, the agreement does not lead to any general restraint of competition. But the agreement does lead to general restraint if it leaves Smith the sole dealer. Since the thing to be preserved was competition, this was a sensible enough attitude toward restraint. But it was not put into effect in such a way as to give the public adequate protection against monopoly.

Monopoly was not specifically prohibited under definite penalties provided in advance. Instead, courts limited themselves mainly to two procedures against unreasonable restraint. First, they refused to enforce agreements on which it was based. Second, they awarded damages to anyone who could prove, in a lawsuit brought by himself, that he had been injured. But restraint was not always based on agreements, or, where agreements existed, there was frequently “honor among thieves.” Further, a suit against a powerful firm able to employ the most expert attorneys was an appalling prospect. And a victory, if secured at all, might come too late to repair the real damage, even if that could be ascertained. There was need for positive prohibition, specific penalties, and prosecution on public initiative, by the federal government.

The Sherman Antitrust Law of 1890

The Sherman Law of 1890 was supposed to meet the need. It declared “every contract, combination in the form of trust or otherwise, or conspiracy in restraint of [interstate] trade or commerce” to be illegal. It also provided penalties for entering into such arrangements or attempting to create monopolies. Suits were instituted by the government, and violators of the law were liable, among other things, to the payment of treble damages to injured parties. The law, although a forward step, was so weakened by certain sins of commission and omission that the heyday of monopoly growth followed its enactment. But it afforded experience which led to improved legislation and a better understanding of the problem.

THE "RULE OF REASON"

For some time, railway combinations and labor organizations were attacked under the act.³ This use of the antitrust law was later recognized as a mistake. The regulation of railways, which are "natural monopolies" in any event, belonged properly to the Interstate Commerce Commission, while labor organizations are too different from industrial monopolies to be treated on the same basis. In fact the Sherman Law was long interpreted as illegalizing *every* restraint of trade. It was not until 1911, in the actions against the oil and tobacco trusts, that the courts went back to the common-law interpretation of "restraint" as *unreasonable* restraint. Under this so-called "rule of reason" combinations were attacked, not merely because they were big, but because they aimed at monopoly.

It is important to note that unfair practices were accepted as proof of intent to monopolize. This was a significant edging away from the policy of suppression. Suppose the courts had now interpreted monopoly in terms of deeds, not intentions. And suppose they had included output restriction and price boosting, along with "unfair practices," in the forbidden misdeeds. In that case our trust policy would have become largely one of directly regulating monopolistic enterprises instead of trying to enforce competition. But the rule of reason did not put heavy emphasis on this kind of principle until two decades later.

SHORTCOMINGS

Following 1890 the antitrust policy lacked the support of an expert administrative body qualified to find and interpret the facts and able to keep on the job. It was weakened because certain sources of monopoly power were not removed. But here a question of basic principle is raised: What causes of monopoly are really removable?

Something could be done, and later was done, to curb unfair practices, although there could be no satisfactory solution of the problem without some such fundamental change in public policy as was contemplated in 1933. Something could be accomplished by overhauling the patent laws in such a way as to make improvements rapidly available to all comers; but this still remains undone. If tariffs could be scaled down drastically, producers would be less inclined to gang together for

³ For example, the Trans-Missouri Freight Association and the Joint Traffic Association were dissolved, despite the fact that they had brought order out of chaotic competition. Again, labor organizations were attacked successfully in the "Debs" case, 1895, and the "Danbury Hatters" case, 1908.

the purpose of keeping prices up to the artificially high levels set by the exclusion of foreign competition. But tariffs are not likely to come down much for a long time. And it is neither practicable nor desirable to get rid of certain economies of large-scale production and management. Dissolutions of trusts under the Sherman Law were pretty unsatisfactory. This was only partly because lawyers were able to invent new forms of combination as fast as old ones were outlawed. It was irritating, of course, to have to cope with holding companies, interlocking directorates, and the like. But there was more to it than form. To a great extent, new forms were the almost automatic response to the attempt to suppress a "big business" which had become such a solid fixture of modern economic life that it could not be suppressed. Nothing daunted, however, the lawgivers redoubled their efforts.

The Legislation of 1914

The Clayton and Federal Trade Commission Acts of 1914 were aimed mainly at the weaknesses outlined above. The chief changes which they effected in the attack on "unreasonable" restraint were these: The use of two forms of combination, interlocking directorates and intercorporate stockholding for purposes of unreasonable restraint, was specifically forbidden. Unfair practices were condemned, and roughly defined; and the use of two of them, price discrimination and tying clauses for purposes of unreasonable restraint, was specifically forbidden.

The Federal Trade Commission, consisting of five ten-thousand-dollar-a-year commissioners and a large staff, was set up to investigate monopolistic activities and act on its findings. On its own initiative, or on complaint, or on the request of other branches of the government, it may look into the operations of industrial corporations engaged in interstate commerce, or into anything affecting the growth or decline of monopolies. It may require annual and special reports from businesses, and it may publish its findings and recommendations. It has no direct power to enforce the prohibitions of the antitrust laws. Legal proceedings against violators of the Sherman Act belong to the Department of Justice. Indirectly, however, it can exert some pressure. If it decides that unfair practices are going on, two courses are open to it. It may bring together representatives of the business concerned and help them to comply voluntarily with the laws. Or it may formally order the cessation of the unfair practices. Similarly, it can order the dissolution of combinations. But the enforcement of its orders, if they should be disregarded, is up to the courts.

SHORTCOMINGS

Despite these apparent improvements, the antitrust policy did not work very well after 1914. The Federal Trade Commission, supposed to be the outstanding improvement, was hampered in getting and using information. Its funds, which Congress has been reluctant to increase, were too small for the investigations needed. Being forbidden to conduct general "fishing expeditions" into business affairs, the Commission was sometimes left in the unhappy position of being required to have information before it was permitted to make a thorough search for it.

Action on the information secured was disappointing. The method of controlling unfair practices by means of trade practice conferences was largely sapped of its strength by the chiseling which went on during periods of depression. The Commission's recommendations were often ignored by the government. Its orders, unlike those of the Interstate Commerce Commission, have not been binding when issued. If disregarded, they had to go to the courts for enforcement, and the burden of proof was on the Commission. In some cases, it is stretching a point to say that even the Commission's fact findings have been accepted as final. It is true that over nine-tenths of the Commission's orders are never taken to the courts on appeal, and that the Commission is sustained in nearly half the appealed cases. Nevertheless, the cases in which the Commission has met reverse have been of unusual importance. With respect to working out new dissolution decrees and checking up on the results of old ones, the co-operation which the Commission received from the courts left much to be desired.

Little headway was made against *forms* of monopolistic combination. Not much was done about interlocking directorates. As for the holding company, the Commission could attack only the securities-holding company, not the property-holding company. This was true even if a combination were formed by first forming a securities-holding company and then merging the properties of the constituent companies before the Commission had a chance to get on the job. Neither could the Commission go after such forms as the community of interest, or the interlocking of stockholders. The courts, of course, could attack any and all forms under the Sherman Law; but, if they did, they did it mostly without the help of the Commission which was especially designed to help them.

The prevention of unfair practices was only moderately successful. Taken broadly, the trouble was that the practices which were dealt with most frequently and effectively were not the ones most responsible for

the growth and abuses of monopoly. Attacks on misrepresentation, maligning competitors, and the like, were backed strongly by the courts, although misleading advertising was left in a flourishing condition. On the whole, the coercion of third parties, by such means as tying contracts and exclusive dealing, was fairly well checked. But progress against price discrimination, the most important form of cutthroat competition, was disappointingly small. Other encouragements to monopoly—and notably patents, tariffs, and the “minority control” of corporations—were hardly disturbed.

BASIS OF SHORTCOMINGS

The weakness of our policy of regulated competition before 1933 was not merely a matter of detail. To a great extent the policy itself was on the wrong track. The alleged artificial props of monopoly had become largely fundamental. Unfair practices were to be eliminated, if at all, only under some arrangement for which “competition” would be a misnomer—some far-reaching co-operation among businessmen subject to central supervision and authority. Competition could not be preserved by preventing or dissolving combinations. Throughout a wide range of important industries the logical outcome of trust busting was not a free market. It was monopolistic competition bearing a stronger resemblance to monopoly than to competition.

Quite apart from the laws respecting tariffs and patents and corporations, several factors made powerfully for a small number of large firms, and for “understandings” among the firms. Included in these factors were big overhead costs, fluctuating demand, and the economies of large-scale production and management. They were so deeply rooted in modern economic developments as to make it doubtful that any government really set on enforcing competition could stay in office. As a sop to popular dislike of bigness, the government could go through the motions of suppression, but in practice it had to be careful lest it create an economic chaos that would turn public animosity from trusts to itself. Without denying that some improvement was effected before 1933, it is nevertheless true that the policy consisted in large part of a noisy bombardment with blank shells. What was needed was neither a sham battle nor the annihilation of an enemy but a constructive treaty between big business and government.

The 1933 Legislation

Such a treaty was attempted by the New Dealers. From 1933 to 1935, under the operation of the National Industrial Recovery Act (NIRA),

the policy of warning individualism that it must be rugged was dropped in favor of what was supposed to be a policy of co-operation between business and government. The main feature of the new policy was the withdrawal of suppression and the substitution of regulation. Before this time, trade associations were prevented, at least in theory, from making co-operative use of co-operative information. That is to say, members could co-operate in gathering and dispersing data on outputs, capacity, costs, and selling prices; but they were not to follow a concerted policy in using their knowledge to control outputs, prices, and "unfair" firms. Now, under the NIRA, trade associations were relieved of this limitation, provided they lived up to "codes of fair competition." In addition to ruling out unfair practices, the codes prohibited child labor and set minimum wages and maximum hours. But the codes were not to be used for monopolistic purposes. About nine hundred codes were drawn up, mostly by the trade associations of the industries which they covered, and were approved by President Roosevelt.

The new plan was essentially one of industrial self-discipline under the supervision and general control of the government. The responsibility fell primarily on the trade associations of the codified industries. At the same time, a fairly elaborate enforcement machinery was set up to help the "code authorities" (the trade associations, in most cases) do the right thing, or to make them do it, as the case might be. Local and state "compliance boards," assisted by regional directors, were formed to help interpret codes, sift alleged code violations, and mediate disputes. The Industrial Appeals Board was created to hear the complaints of firms, especially small ones, against the National Recovery Administration (NRA), which represented the government. The NRA, in turn, had at its disposal several means of securing enforcement. It took over from the Federal Trade Commission the trade practice conference, under which representatives of business and government got together to secure voluntary compliance with the laws. It could oblige enterprises to get federal licenses in order to do business, and it could then revoke the licenses of those which refused to behave. It could sue alleged code violators, fining and imprisoning those found guilty by the courts. In this task it had the assistance of the Federal Trade Commission, which would investigate NRA complaints and institute legal proceedings. All in all, here was an arrangement which, if properly used, seemed capable of preventing unfair competition on the one hand and monopolistic practices on the other. It remains to see what use was made of it.

CONTROL OF OUTPUT

Outputs were not only controlled but restricted. Direct control, sought by the National Association of Manufacturers, was limited in practice mostly to natural resources. The code for the lumber and timber industry fixed maximum outputs for each branch of the industry and allocated nontransferable quotas among the producers. A similar arrangement was made for the petroleum industry. Congress delegated to President Roosevelt the power to prevent the interstate shipment of so-called "hot oil," or oil produced in excess of quotas; but the Supreme Court held this delegation of power to be unconstitutional.⁴ Sales restriction, sales quotas, and an allocation of orders among sellers, were set up for copper sold in the United States. Producers who complied with the regulations were permitted to call their product "Blue Eagle copper," and only this kind of copper could be used in products sold to the government. But this incentive to restriction was subject to withdrawal if it caused an unreasonably high price.

Indirectly, output was restricted in many industries by limiting capital investment and hours of plant operation. Attempts to reduce existing capacity failed in some industries, but restrictions on the entry of additional capacity were widespread, especially in the production of textiles and such basic materials as steel, lumber, and chemicals. In the steel industry, new firms were denied production quotas until the firms already having quotas were operating at full capacity. Even in industries with surplus capacity, this policy may have the objectionable effect of preventing the introduction of improvements. Where capacity is not excessive, it has the same effect as monopoly.

In about sixty codes, maximum hours of plant operation were set. Where the actual hours were below the limits established, the main result was probably a sharing of the total amount of work among the different plants. This caused a restriction of output only in the sense that it helped to keep inefficient plants in business. When demand picked up, however, the setting of maximum hours had the effect of holding down the total output in order to hold the price up, and in some cases it was used for this purpose. In general, the restriction of output went farther than was necessary to keep output down to the most economical volume.

⁴ On the ground that Congress did not set up a sufficiently clear standard to guide the President in the exercise of the power, and that, for this reason, legislative power had been improperly delegated to the executive branch of the government.

CONTROL OF PRICES

Output was limited also by means of minimum prices. Prices were held up in two main ways.⁵ First, a few codes provided for minimum prices regardless of costs. The logical result was to throw existing capacity out of use and invite new capacity into the field, and that is what happened. The arrangement led, in the soft-coal industry, to bootlegging coal and to the evasion of the minimum prices; in the lumber industry, to a huge amount of slack, new capacity, and evasion. The case is remarkably similar to that of Britain's ill-fated rubber control. Second, and more important, well over four hundred codes provided for "open prices." As a rule, every seller under a given code knew both the existing and the prospective prices of every other seller. In practice, this made for uniformity and stability of prices, with the objectionable consequences described in Chapter XV. Being uniformly high, and stable as well, the prices caused restriction of output, especially during depression, and they held up costs of production by protecting inefficient producers.

CONTROL OF NONPRICE COMPETITION

Finally, the control of nonprice competition went beyond mere efforts to prevent unfair practices. Competition in quality and service was limited by standardizing not merely first-grade and second-grade products but also the practices respecting guarantees, demonstrations, samples, free equipment and repairs, allowances for returned goods, and so on. Competition in selling was restrained by regulating various forms of pressure exerted by sellers against competitors and buyers. Unusually strong brakes were applied to misrepresentation, imitating the designs or trade marks of competitors, defaming competitors or their goods, enticing the employees of competitors, and the like. They were applied also to such disguised methods of price cutting as granting big discounts, making excessive trade-in allowances, substituting better articles for articles ordered, and splitting commissions with jobbers so that jobbers could cut prices. But these restraints, which are fair enough when employed only to prevent cutthroat competition, tended in practice to degenerate

⁵ Some four hundred codes prohibited sales at prices "below cost of production." But there was so much vagueness about the meaning of this measure that it is hard to tell what the practical effect was. Usually, the meaning was that no individual firm should cut below its own cost; sometimes, that no firm should cut below the cost of the lowest-cost firm in the field. Control was weakened by the fact that exceptions had to be made for liquidation sales, for discontinued or second-grade products, and so on. In reality, firms often shaded prices below their own costs in order to cope with more efficient competitors. Although uniform methods of accounting were called for in most cases, little attention was actually paid to the problem of plant valuation and overhead cost.

into the suppression of rivalry in general. Producers used them to heal themselves, with result that consumers were injured by excessive prices and deficient outputs.

GENERAL RESULTS

Industry came to life under the NRA codes, but hardly because of them. At first there was a rapid revival of selling. The public, expecting that monetary inflation and the labor provisions of the codes would raise prices, "came early to avoid the rush." Before long, however, the codes were used, not just to curb unfair practices, but to restrict outputs and boost prices. When, in fact, demand dropped off after the short-lived boom, and existing prices could not carry off current production, producers not only failed to lower their prices but actually raised them. Of course this was in violation of their agreement with the government. The understanding was that they could co-operate for purposes of orderly selling, not that they were free to act like monopolists.

Administrator Hugh Johnson (later supplanted by Donald Richberg) so many times threatened to "crack down," and so consistently failed to make good his threat, that he came to be regarded as a sheep in wolf's clothing. The power to license industries went unused, and legal prosecutions were rare. But it would be unfair to make Johnson or any other individual the black sheep. The Administration lacked both the plan and the determination to establish genuine central control over trade associations and the relative outputs of different industries. Uncertain of the constitutionality of the NIRA, plunged into a huge job for which much longer preparation was needed, and fearful that vigor would obstruct recovery by shaking confidence, it wanted to deal gently with big business. Besides, talking one way and acting another is so deep-rooted in American trust policy, if not in "liberalism" itself, that actually going through with the "New Deal" would have meant a terrifying breach of tradition. As matters turned out, restraint of trade was given an improved lease on life, and industrial prices were raised as much as agricultural prices. The Board of Review, headed by the late Clarence Darrow, was largely right in its conclusion that the NIRA had fostered monopoly, had discriminated against small firms, and, instead of really planning our industrial life, had "regimented exploitation."

END OF THE NIRA

The NIRA, which went forth to war under the symbol of the Blue Eagle, was laid to rest in 1935 under the shadow of a "sick chicken." The Schechter Brothers, who operated a wholesale poultry firm in

Brooklyn, were sued for violating the "live poultry code." Among their misdeeds were the sale of "an unfit chicken," and failure to observe the provisions setting minimum wages and maximum hours for labor. Although they did not sell in interstate commerce, the government argued that interstate commerce passed through the "bottle neck" of the New York market, and that it was injured by business abuses and bad labor conditions in this market. The Schechters pleaded that their business affected interstate commerce, if at all, only so indirectly that the federal government had no constitutional right to enforce the code against them. Lost in the lower courts, their case was carried on up to the Supreme Court, which agreed unanimously with the defenders of the Schechters.⁶

The decision was rather the obituary than the deathblow of the code system. The codes had been pretty widely violated already, and "chiseling" was not greatly increased under the voluntary codes which took their place. Thus for lack of real planning and enforcement, and for lack of public support, a promising experiment in co-operation between business and government died early and ingloriously.

The Future of Regulated Competition

The late 1930's found regulated competition back about where it was on the eve of the NIRA. Industrial self-discipline was again predominantly under voluntary arrangements; and the government, finding itself denied the direct power of control which was implied by the NIRA codes, began a more vigorous use of the antitrust laws. In some details these laws were improved. A 1936 amendment to the Clayton Act of 1914 gave more explicit definition to unfair practices than existed before. The Robinson-Patman Act of 1936 was intended to afford better protection to "the little fellow," and to strengthen the safeguards against chaotic competition. It forbade any seller engaged in interstate commerce to practice discrimination between customers, with respect to price or service or facilities, when such discrimination might substantially reduce competition *either* between the seller and his rivals *or* between his customers.⁷

⁶ The Court turned the government down on three counts: (1) The giving of the code-making authority by Congress to the President, and the President's virtual sub-delegation of this power to trade associations, was an unconstitutional delegation of legislative power. (2) The business affected interstate commerce only so indirectly that the federal government had no authority to regulate its wages and hours. (3) There was no emergency such as would justify the removal of this limitation on the authority of the federal government.

⁷ However, this provision is qualified with respect to differences in costs, price changes made in good faith to meet competition, and price cuts connected with liquidation sales, second-grade products, discontinued lines, and the like. The qualifications, although

INADEQUATE POWER TO CONTROL

One weakness is the lack of adequate federal power to control economic activities which cross state lines and affect the American people as a whole. Under our Constitution, the central government has only the powers explicitly or implicitly given to it, while the states have all the powers not explicitly or implicitly taken away from them. In interpreting this division of powers, and deciding what the "delegated powers" of the federal government are, the Supreme Court is the final judge. How federal control is weakened by its decisions is amply illustrated by the fate of New Deal legislation.

The federal government has the delegated power of control over interstate commerce. But what is "interstate commerce," and what things so affect it as to justify federal intervention? That is largely a matter of judgment. It was the judgment of the Supreme Court that the economic security of railway workers and the hours and pay of workers in industries not themselves directly selling across state lines were not proper objects of federal control. The federal government has the "taxing power," the delegated power to raise money and spend it to pay debts and provide for national defense and general welfare. But when is a tax not a tax? That is largely a matter of judgment. It was the judgment of the Supreme Court that the AAA processing taxes were not simply taxes but a means by which Congress usurped the reserved right of the states to regulate agriculture.

It was also the judgment of the Court, on several occasions, that federal laws were unconstitutional because they sanctioned an improper exercise of delegated powers which it was not denied that the federal government possessed. The "hot oil" cases illustrated the point. Constitutionality, to repeat, is largely a matter of judgment, including economic judgment. And, in its judgment of things economic, the legally trained mind is often seriously wanting. It stresses form to the neglect of content. It asks whether a restraint on interstate commerce is "direct" or "indirect," not how badly the restraint effects our economic life. It asks whether manufacturers use coercion in breaking up price cutting, not how bad or good, economically, the price cutting is. Or it asks whether a combination has the "intention" or "power" to monopolize, not how far it actually goes in restricting output and raising price. In part, however, the trouble lies in laws rather than lawyers. The "fundamental

economically justifiable in themselves, weaken the provision in the sense that it is extremely hard to tell whether the differences in question do or do not really account for the price differences.

law of the land," the Constitution, stands in need of clarifying clauses, if not of basic revision. Economic changes have left the individual states unequal to the task of regulating trade; and this fact forces on us the explosive problem of changing the courts, or the laws, or both.

AMBIGUOUS POLICY OF CONTROL

Another weakness is inherent in the policy of "regulated competition" itself. This policy is ambiguous. It is really two policies, trust busting on the one hand and enforcing good behavior on the other. To a great degree, we have proceeded without realistic economic standards for judging which of the two should be applied, and without realistic methods of enforcing either.

If the idea is to enforce competition, it is necessary to check and reverse the trend toward business units of increasing size and decreasing number. Is this practicable? One school of thought holds that it is. It holds that, in such fields as steel, motors, aluminum, copper, and chemicals, the major advantages of large-scale operations could be realized with much smaller firms, and possibly with smaller plants as well. It contends, to illustrate, that U. S. Steel, Bethlehem, and Republic, could be broken into about three dozen companies, by such means as progressive taxation on bigness and the prohibition of corporate ownership of corporate securities; and that, as the stock in the industry came to be scattered by sales and inheritance taxation, competition would be effectively restored to the field. The opposing school of thought holds that the breaking up of large firms into many small ones is not practicable; that it would require the removal of really basic causes of bigness; that the attempt would leave a situation of monopolistic competition strongly resembling monopoly in its practical results; that, in short, the task of enforcing competition has become the task of turning back the clock of history. It is entirely possible that the inevitable extension of public control which attends a national defense emergency will play a hand in deciding the issue, whether on its merits or not, in favor of one of these two schools.

If, however, the idea is not to suppress bigness but to accept it and make it refrain from unfair and monopolistic practices, we have got to have something more than sporadic legal attacks on misbehavior. Even the control of unfair practices cannot be worked without far-reaching measures of industrial self-discipline which are supervised and unified by the central government. Inseparable from this is the control of monopolistic practices. The logic of economic history seems to indicate that our policy of "regulated competition" will come more and more to

resemble the policy of regulation which was once limited to just a few businesses said to be "affected with a public interest."

For the future, we seem to have a choice between the combined evils of monopoly and chaotic competition, on one side, and the evils of far-flung regulation on the other. In judging which of the two sets of evils is the greater, people will be influenced by tradition as well as self-interest. Politicians, in or out of a job, will try to make hay by exaggerating this way or that. "Pressure groups" will increase the difficulty of making any clearcut choice at all. In the inevitable compromises reached, the machinery of public control will be likely to change more slowly than the economic conditions with which it must deal. As public regulation lags behind current realities, and as exploitation persists, there will doubtless be prophecies of stark ruin, revolution, and the like. Such things are possible, of course, if the lag becomes bad enough. But usually it does not. Exploitation, since it is as old as history, does not necessarily foreshadow the collapse of society. And, as Adam Smith once genially observed of England, there is still a lot of ruin left in the country.

PROBLEMS

1. Discuss the distinction between suppressing "bad" combinations and forcing combinations to be "good."
2. Describe the leading forms of unfair competition.
3. If a certain combination refrains from unfair competition, does it necessarily follow that the public interest in the activities of this combination is adequately protected? Explain.
4. In what main respects was the American public inadequately protected against industrial monopoly before 1890?
5. Describe the main provisions of the Sherman Law.
6. Describe the "rule of reason." Toward which of two general policies, the "suppression" of monopoly, or the "regulation" of monopoly, did it point? Explain.
7. Discuss the main weaknesses of our antitrust policy as it operated shortly before 1914.
8. In what respects did the antitrust policy of 1914-33 succeed in removing the weaknesses just discussed? In what respects did it fail to do so?
9. Explain the essential nature of the change in policy undertaken in 1933. Describe the means of enforcement available to the government.
10. What happened to industrial output, prices, and competition, under the NIRA? Explain why.
11. "In response to a strong and persistent popular demand that it 'do something about monopoly,' the government may follow either of two general courses. First, it may 'do little, escaping responsibility by conveying the impression that it is doing a great deal. Second, it may actually do a great deal. What it actually does, however, will have to be accomplished by either more effective suppression or more effective regulation."

- (a) Outline the problems raised by the second general course of action.
- (b) To which of the two general courses do you expect the government to lean in the short run? In the long run? Explain in both cases.

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PART V. GENERAL FLUCTUATIONS

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XX

THE GENERAL LEVEL OF PRICES: *THE VALUE OF MONEY*

For two or three years we constantly saw and were informed of creditors running away from their debtors and the debtors pursuing them in triumph, and paying them without mercy.—JOHN WITHERSPOON.¹

IN THE PRESENT chapter our study turns from individual prices and their changes to the general level of prices and its changes. An individual price expresses the value of a given commodity in exchange for commodities in general. The general level of prices, on the other hand, expresses the value of commodities in general in exchange for money. The importance of changes in this level may be illustrated as follows:

In the city of Güstrow, Mecklenburg, during the autumn of 1923, the widow of a German naval officer used to wait for the postman, pounce on the letters containing her pension allowances, rush downtown by taxicab, and buy food and other goods with all possible speed. The occasion for the haste was the extremely rapid rise of prices. From early January to the end of November in this year the government increased the number of marks from a figure of thirteen digits to one containing twenty-one digits. Prices rose so fast that it was nothing unusual for articles to open on a Monday morning at twice the prices they had commanded on the preceding Saturday evening. Even a few minutes could make a great difference. At the end of a day factory workers would literally run to stores to convert their wages into goods.

The purchasing power of the mark fell so prodigiously that a fixed investment having a value, in terms of American money, of a million dollars on the eve of the World War sank to about 1/100,000 of one cent in November, 1923. In their haste to put their depreciating money reserves into plant and equipment, businessmen let their working capital decline so far that rates on short-term loans eventually rose to 40 or

¹ *Works*, IV, 222–23; cited by H. G. Moulton, *The Financial Organization of Society* (2d ed., 1925), p. 83. The reference is to the effects of the depreciation of the Continental currency during the period of the American Revolution.

50 per cent. While the mark was becoming worthless, some people were cleaned out and others enriched, and Germany as a whole was staggered by a disruption of her economy. In this case the effects of changes in the *general level* of prices were tragic. They have been so on other occasions, of which the periods of the French Revolution, the American Revolution, and the American Civil War serve as illustrations. And changes in the average of individual prices are still important even where they are not spectacular.

Changes in the Price Level

If given quantities of goods and services are taken for granted, it makes little difference what the level of prices may be as long as the level is stable. The important thing is changes in the level. What counts, moreover, is not the absolute amount of change but the degree of change. A change of, say, 20 cents in the average of prices does not in itself mean much, but a change of 25 per cent signifies a great deal.

MEASUREMENT OF CHANGES

In measuring changes it is convenient to use *index numbers*, or *indicating numbers*. Although our discussion has to do with prices in general, the meaning of index numbers can be most simply illustrated by beginning with a single commodity. Say that the price of wheat was \$1.00 two years ago today, that it was \$1.25 a year later, and that it is \$.75 today. Let last year's price be the *base* with reference to which changes are to be measured. Call the base price 100 per cent or, for short, 100. This is the index number for the base year. Then the index number for two years ago is 80, since \$1.00 is 80 per cent of \$1.25; and the index number for this year is 60, since \$.75 is 60 per cent of \$1.25.

To illustrate the use of index numbers in describing changes in the *general* price level, let goods in general be represented by two commodities, wheat and cotton. Taking 1938 as the base, assume the changes to run as follows:

YEAR	WHEAT		COTTON	
	Price	Index No.	Price	Index No.
1937	1.00	80	.15	125
1938	1.25	100	.12	100
1939	.75	60	.18	150

To show what the price *level* has done in the last year, we take an average of the separate index numbers for wheat and cotton in 1939. If we

take a "simple," or "unweighted," arithmetical average, we add the two index numbers and divide by two ($\frac{60 + 150}{2} = 105$), thus reaching the conclusion that the price level has risen 5 per cent. But probably this result is inaccurate, since it is not likely that our two commodities are equally important. Suppose, for example, that people typically spend four times as much on wheat as on cotton. To get around this difficulty we can "weight" our commodities according to their relative importance. We may count the index number of wheat four times, counting the index number of cotton only once, and divide the total by 5 instead of 2. Thus:

$$\frac{60 + 60 + 60 + 60 + 150}{5} = 78.$$

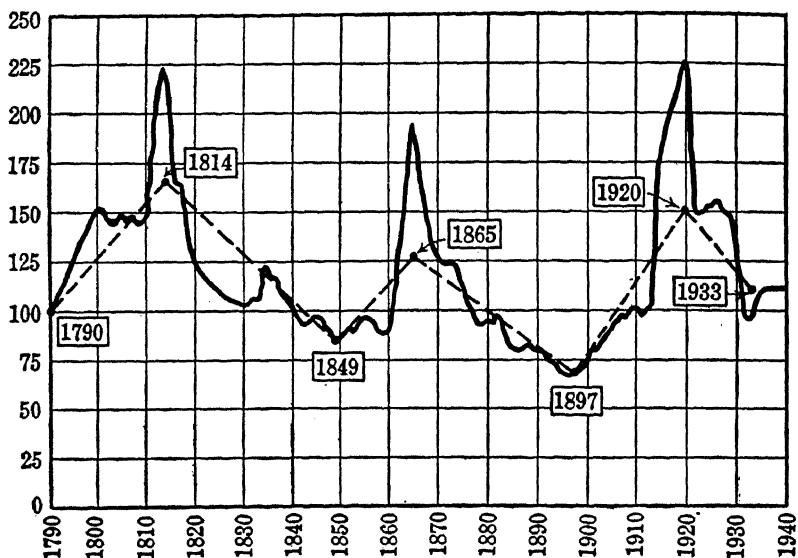
That is, by using a "weighted" arithmetical average, we reach the conclusion that the general price level, instead of rising 5 per cent, has fallen 22 per cent. In estimating changes in the wholesale price level in the United States, the Bureau of Labor Statistics uses 1926 as a base and weights hundreds of commodities according to relative consumption in 1923 and 1925.²

CHANGES IN THE UNITED STATES

From 1790 to 1936 the general level of wholesale prices in the United States has behaved substantially as indicated by the accompanying diagram, 1913 being taken as the base year.³ The three great peaks described by the heavy line coincide with the disturbances created by the Napoleonic Wars (of which our War of 1812 was a part), by our Civil War, and by the World War. By lopping off these peaks we can see more clearly the general trends, which are indicated by the dotted line. That is, the price level moved upward from the founding of our Republic to 1814, then downward to 1849, then upward to 1865, then downward to 1897, upward again to 1920, and downward once more to 1933. The diagram is so small as to outline little more than the major waves—the long swells, and the huge breakers cast up by war. It is noticeable, however, that the great undulations are composed of shorter waves. Certain

² Where no reasonably satisfactory data can be obtained for assigning weights, there are other ways of improving on the results of the unweighted arithmetical average. The use of the *median* is one way out. For instance, we might take the index numbers of 551 commodities for 1939, arrange them in an array running all the way from the least increase to the greatest increase, and then use the 276th number as representative of the average change. Or the simple geometrical average may be used. To illustrate from our case of cotton and wheat—we multiply together the 2 index numbers and take the square root of the product. Where there are 3 commodities, we find the cube root of the product of the 3 index numbers; and so on for any larger number of commodities.

³ From 1790 to 1890 the price level is based on an unweighted arithmetical average; from 1890 forward, on a weighted arithmetical average. The level of wholesale prices in England behaved in very similar fashion, except that it did not go nearly so high as ours during the period of our Civil War.



of these shorter waves, themselves broken up by oscillations which are smaller still, correspond with the movement of "business cycles"—with the rhythmical ebb and flow of general economic activity to be described in the next chapter.

Effects of Change

Changes in the price level help some economic groups while hurting others. In general, the groups helped by a rise are hurt by a fall, and those injured by rising prices stand to gain by falling prices. Where the changes are exceptionally pronounced, moreover, the benefits are likely to be more than offset by the injuries.

EFFECTS ON DIFFERENT GROUPS

Major price movements (trends distinguishable from the ups and downs of business cycles) create injustice and friction between long-term debtors and creditors. A loan running for five, ten, or more years becomes a heavier and heavier burden on the borrower as prices continue to fall, and the lender, if he collects interest and principal, gets correspondingly more actual wealth than he has loaned. We have seen how the farmers under long-term mortgages were affected by the decline of prices from 1920 to 1933. The buyers of mortgaged urban homes were in the same predicament. When the dollar was devalued in 1934, what the bondholding class in general really lost was the right to collect a great deal more than it had loaned.

MAJOR CHANGES

The situation was similar during the long fall of prices which occurred from 1865 to 1897. Throughout this period Western farmers and other debtor groups were stung to a wholehearted dislike for "Wall Street," namely, for the lending class. They were also incited to recurrent demands for inflation. The Greenback movement pressed for fiat paper money; the Free Silver movement, for the unlimited government coinage of silver such that 16 ounces of silver would represent as much money as an ounce of gold; and the Populist movement, which joined with the Free Silver forces in 1896, pressed for both measures of price upping. The torrid character of the 1896 presidential campaign can be guessed from the famous "Cross of Gold" speech with which Bryan captured the Democratic nomination. Hurling his massive defiance at "the great cities," Bryan concluded:

Having behind us the producing masses of this nation and the world, supported by the commercial interests, the laboring interests, and the toilers everywhere, we will answer their demand for a gold standard by saying to them: You shall not press down upon the brow of labor this crown of thorns, you shall not crucify mankind upon a cross of gold.

Although Bryan was defeated, and although our currency was established on the single standard of gold, sustained periods of falling prices still array debtors against creditors in political conflict.

Matters are not necessarily better during a period of strongly rising prices. Those who like inflation should have been pleased by the behavior of German prices after the World War. And some of them were. Hugo Stinnes, among others, rolled up a fortune by practicing the art of going into debt. He bought industrial plants with borrowed money, and, as the mark value of his holdings soared, easily met his payments while borrowing ever greater sums to reach for more. Corporations, and the government itself, liquidated their fixed debts with worthless currency. The heaviest blows of this exploitation fell on the middle classes.

CYCLICAL CHANGES

The shorter price waves which rise with booms and fall with depressions change the distribution of income as between employers and laborers. Take first a period of rising prices. The profits of entrepreneurs increase. Sales expand. At the same time such costs as interest, rent, and salaries move less rapidly than wholesale prices, so that profits per unit of sales rise also. As individuals, skilled laborers lose out. Their wages

change sluggishly: they "lag." To be sure, retail prices also lag behind wholesale prices. And yet, even if this lag offsets the wage lag, the skilled worker's real income does not rise so fast as the employer's. As a class, skilled laborers gain something in increased employment. But this gain is comparatively small, as skilled laborers have not typically suffered from much unemployment before the boom. Common laborers come off better than skilled laborers. They enjoy a much greater increase of employment, and their wages rise sooner and faster. As a whole, labor probably finds its real income increased by the upswing of prices, although it gains relatively less than the entrepreneur class does.

During a downswing skilled labor certainly suffers much less than common labor, and probably somewhat less than entrepreneurs. The entrepreneur now sees the lags working against him. In his efforts to cut expenses to declining demand, he finds some costs relatively fixed. He cannot stop the interest bill on buildings and equipment. Neither can he freely discharge skilled workers. But he can and does lay off many common laborers, and he slashes the wages of those whom he keeps. Both the downswing and the upswing cause labor disturbances. Wage cuts and growing unemployment provoke strikes, violence, and "radicalism." When prices rise, on the other hand, laborers in general, and skilled workers in particular, press for higher wages and greatly extend the membership of their organizations.

GENERAL EFFECTS

The more general economic effects of rising and falling prices depend on the causes and rapidity of change. It cannot be stated with assurance that a slow rise would be harmful if it were brought about by a gradual increase of central banking reserves during a period of stable production. Such a change would at least encourage production by offering entrepreneurs the incentive of rising money profits. Neither can it be said with certainty that a slow fall would be injurious if it were caused by a gradual increase of production during a period of stability in the central banking reserves. Under these conditions the increase of transactions would protect businessmen from a decline of profits, while the fall of the price level might serve as a stimulus to efficiency. But there are two conditions which almost certainly make the evil outweigh the good.

First, a *rapid* change seriously handicaps the price system in performing its primary function. This function is to express exchange values accurately. Resources are not distributed economically among different fields of production unless prices tell the truth about comparative difficulties of production and comparative intensities of wants. Rapid changes

in the price level cause individual prices to falsify. The seller who trades his products for money cannot tell how much he will get when it comes time to exchange the money for other products. Effort is partially paralyzed at the same time that industry is thrown out of balance. Even publicly regulated prices are made to misrepresent. Regulatory bodies are hesitant to bring public-utility rates into line with price-level changes, not merely because this is a huge task but because revision changes the money income of stockholders without affecting bondholders. Meanwhile, there is all the waste occasioned by the clash of group interests which was sketched above.

Second, changes in the price level which are brought about by arbitrary changes in the amount of money and deposit currency aggravate the fluctuations of the business cycle. Indeed, monetary changes can have this effect without actually changing the price level. They need only prevent a price-level change which otherwise would have occurred as a result of a change in the volume of production. The reasons will be presented in the next chapter.

Causes of Change

Our discussion of the measurement of price-level changes began with changes in the price of a single commodity. It will now be convenient to begin the discussion of the causes of change in the same way. Assume, then, that in a certain market dollars are being exchanged for bushels of wheat. In other words, wheat is being used to represent "goods in general." On a given day \$100 are traded for 100 bushels. Thus the price level, represented by the price of wheat, must be \$1, or the result of dividing the number of dollars by the number of bushels. Now let us change the price level. There are two general ways of doing it—by changing the number of dollars, or by changing the number of bushels.

Take first a change in the number of dollars exchanged for wheat. Say that \$200 are traded for 100 bushels. This change may occur in either of two ways. On the one hand, the *quantity* of money in the possession of the buyers may be doubled. On the other hand, without any change in the quantity of money, the *rate of circulation* of money may be doubled. We may assume, for example, that the buyers had \$200 all along, but that they now offer the whole amount, instead of only half of it, for wheat in one day. It makes no difference, as far as the price "level" is concerned, which of the two things happens. In either case \$200 are traded for 100 bushels, and the price level is \$2. Take next a change in the number of bushels offered for dollars. Say that 200 bushels are traded for \$100. This may happen either because the total stock of

wheat is doubled or because an unchanged total stock now enters the market twice as fast as before. It does not matter which. What counts is the doubling of the amount traded for a given number of dollars in a given period of time. The price level becomes 50 cents in either case.

THE VALUE OF MONEY

We have spoken of these changes as being changes in the price level. It is equally correct to treat them as changes in the *value of money*—in the buying power of a dollar. When, in the situation above, we doubled the price level, we cut the value of money in two. We reduced the exchange value of the dollar from one bushel to one-half bushel. And, when we halved the price level, we raised the value of the dollar from one bushel to two bushels. The value of money varies inversely with the price level.

THE EQUATION OF EXCHANGE

The situation with which we have been dealing really presents a very simple outline of the so-called equation of exchange. The reasoning would be the same if, instead of representing price-level changes by changes in the price of a single commodity, we struck averages for the prices of a large number of commodities under various conditions. The price level, or the value of money, as the case may be, of any given period depends on the relative amounts of goods and money exchanged against each other during this period. This is on the understanding that “money” means all media of exchange, including paper money and deposit currency, which are traded for goods. And it is on the further understanding that “amounts” mean, not necessarily the amounts in existence, but the amounts actually exchanged.

As usually expressed, the equation of exchange employs certain symbols for the quantity and turnover of goods, for the quantity of money and its rate of circulation, and for the price level. The quantity and turnover of goods are lumped together under T , which therefore means the total of transactions, or the actual amount of trade, in terms of goods. But the quantity and the circulation rate of money are not combined in one symbol. Instead, M is made to stand for the quantity in active circulation during the period, and V for the velocity of circulation. Moreover, it is customary to distinguish between ordinary “money” and deposit currency. The latter is symbolized by M' and its velocity of circulation by V' .⁴ Finally, the price level is represented by P . Thus the

⁴ For all practical purposes V' may be found by totaling up the debits to the accounts of individual depositors in commercial banks during the period and dividing the total by the average deposits of the period. This shows how many times the deposits have been “turned over,” or exchanged among depositors as a result of sales.

equation of exchange may be expressed as follows: $\frac{MV + M'V'}{T} = P$.

That is to say, the price level of a given period is equal to a fraction whose numerator consists of the total exchanges of funds for goods, and whose denominator consists of the total exchanges of goods for funds. Of course P is changed by a change in the comparative sizes of the numerator and the denominator. Let us now see how such a change might occur.

VARIATION OF ITEMS IN THE EQUATION

As we learned in Chapters VI-VIII, M and M' vary directly as our bank reserves. They need not vary proportionately, however. In the short run, they certainly do not. During booms bank deposits swell, and during depressions they contract, independently of changes in the reserves. This is because the amount of borrowing, which mainly determines the amount of deposits, does not automatically increase when reserves rise and loan rates fall, and does not automatically decrease when reserves fall and loan rates rise. Fred M. Taylor⁵ once illustrated the point by remarking that a householder does not change his residence merely because he sees a moving van in front of his house. He has to have some reason for moving. In the same way, businessmen do not borrow large amounts merely because bank reserves are high and loan rates low. If they borrow, it is in the expectation of using the funds profitably, an expectation which is not the rule when business is dull. In the long run, however, the changes in M and M' tend to be more nearly proportionate to the changes in the bank reserves, since the respective effects of booms and depressions tend to cancel out. Still, other things may happen in the meantime to keep the changes from being proportionate. In fact, as we shall see later, bank deposits have increased more than bank reserves since 1914.

Now turn to V and V' . They tend to be increased, in the long run, by population growth and by improvements in transportation and banking facilities. In determining their fluctuations, however, the most important factor is the variation of general business activity. For example, the circulation rate of American bank deposits fell from nearly three turnovers a month in October, 1929, to less than one turnover in November, 1932.

Now consider T , which is made up of the amount and turnover of goods. The amount is the total output. The turnover refers to the number of times the output is exchanged as it moves from the raw materials

⁵ In his *Chapters on Money* (1906), pp. 202-3.

stage to final consumers. In general, a high degree of specialization among regions, industries, and markets makes for a high rate of turnover. In long periods output is likely to change more than turnover. In the shorter periods which coincide with the ups and downs of business cycles, although both output and turnover fluctuate greatly, the turnover is even more unstable than the output.

THE QUESTION OF "CAUSES"

In itself the equation of exchange is merely a "truism"—a statement that what is so is so. Nothing else except the relative quantities of funds and commodities traded for each other could determine the price level. Nothing else except the amount and turnover of funds on the one hand, and the amount and turnover of goods on the other, could determine these relative quantities. All we have done is outline the factors which have a bearing on the different elements in the situation. We have only indicated what changes *could* change the price level. But this leaves open the question of what changes actually *do* change the price level.

THE QUANTITY OF MONEY

According to the *quantity theory of money* (perhaps "quantity-of-money theory" would be more accurate), the chief explanation of price-level changes is to be found in changes in the quantity of money.⁶ It is only fair, here, to interpret "money" as "currency," that is to say, as circulating mediums in general, including deposit currency as well as ordinary forms of money. This being the case, we may simplify the equation of exchange to read $\frac{MV}{T} = P$, and translate the quantity theory as stating that changes in P are caused by changes in M . Those who hold this theory point out that a change in the quantity of money can change the price level even *before* the quantity is changed. Suppose, for example, that businessmen have reason to *expect* an increase of money. Then, in order to get in ahead of increased prices, they spend more rapidly than before such funds as they already command, so that the increased rate of circulation raises prices in advance of the actual increase of money. Thus the quantity theory is not disproved by calling attention to

⁶ This theory, if it merely stated that, "other things being equal," the price level varies directly and proportionately as the quantity of funds, would merely repeat the truism contained in the equation of exchange. But, as held today, the quantity theory goes further than this. It implies that the behavior of "other things"—the circulation rate of funds, and the amount of trade—is actually such that an increase or decrease in the amount of funds *causes* a rise or fall, respectively, of the price level.

the fact that prices sometimes increase before the quantity of money does. Let us now illustrate the theory by applying it to, say, the 1897-1920 period of rising prices.

AN ILLUSTRATION

The increase of prices could not have been caused by a decrease of trade, since it is well known that trade was increasing greatly. Perhaps the circulation of money tended to speed up somewhat, for population was increasing, and transportation and banking facilities were being improved. But the most pronounced change was the expansion of money and credit. One factor behind it was the great increase in the output of gold. The annual output, which had averaged around \$134,000,000 from 1856 to 1860, was about trebled after 1885, following the discovery of fresh supplies in Alaska, Canada, and South Africa. It is true, since gold is a very durable metal, that a great increase in the output of any single year causes a much less than proportionate increase in the total amount of gold in monetary use. But this expansion of output continued for many years, reaching a peak of over \$470,000,000 in 1915, and the effect on the volume of bank reserves came to be more and more strongly felt as time went on.

Besides, improvements in the banking system made it possible for each dollar of reserve to support increasing quantities of deposit credit. This was especially true after the establishment of the Federal Reserve System at the end of 1913. Gold, which was formerly held as reserve against the *deposits* of commercial banks, now began to be held as reserve against the *reserves* of these banks. During the War, the quantity of money in the United States was swelled in several ways. A heavy export balance of trade led to large importations of gold. The big expansion of credit was supported also by decreasing the reserve requirements of member banks, and by pooling the gold reserves which the federal reserve banks held against reserve notes and the deposits of their member banks. On top of all this, credit was extended until, in 1920, the reserve banks had got down to just about the minimum reserve ratio allowed by the banking laws.

QUALIFICATIONS

And yet the quantity theory, despite the strong support which it receives from these facts, is open to two important qualifications. First, in the long run, changes in the quantity of money are not to be regarded as wholly *independent* causes of changes in the price level. On the contrary, they are at least in part the result of changes in business activity, and

especially of changes in the activity of investment. Second, in the short run, changes in business activity influence the price level by exerting strong effects on the quantity and circulation rate of money. It seems, indeed, that the quantity of money, instead of changing independently, is mainly dependent on business activity. Let us follow these qualifications a little further.

INVESTMENT ACTIVITY

Our long periods of rising prices have been also periods of unusually heavy investment in capital goods. The rise which occurred from 1849 to 1865, although partly the result of an increasing supply of gold, was attended by the use of huge bank loans in the expansion of the railway net and of the heavy industries in general. At the same time all available funds were turned over rapidly. The situation was similar in the 1897-1920 period. While there was a great increase of gold, there was also very heavy investment in roads, electrification, automobiles. In contrast stands the 1865-97 period of falling prices. During this time, the increase of investment did not keep up with the general growth of wealth. Thus fluctuations of investment activity are to some extent causes of the monetary changes which in their turn tend to bring about changes in the price level.

SHORT-RUN PRICE FLUCTUATIONS

In short-run price fluctuations, the main initiating factor seems to be the variation of business activity. That is to say, the rise and the fall of the quantity of money, especially deposit currency, are now determined by the flow and ebb of business. Moreover, business activity appears to be largely a matter of investment activity. To illustrate—during a big war, investment is extremely active. Capital is being destroyed at a rapid rate. Much of it is literally shot to pieces. Wear and tear correspond with frantic haste and waste, and depreciation is enormous. The wholesale substitution of new for old uses of capital leaves huge amounts of equipment largely useless while the process of conversion is going on. To secure vast quantities of specialized “war” capital, governments borrow unprecedented sums. On Liberty Bonds alone our government borrowed more than twenty billion dollars during and shortly after the World War. The expansion of government borrowing is not nearly offset by a contraction of private borrowing. Instead, government loans are taken up largely by means of a net expansion of bank loans. The turnover of funds is also exceptionally rapid. Thus it is no trick at all to raise the price level during a war. Business activity in general and investment

activity in particular do the job. The situation is similar during a cyclical boom. The amount and the turnover of currency increase, and prices rise. In both wartime and cyclical booms the rise of prices becomes more pronounced as the "slack" of idle labor and capital disappears, since it becomes harder and harder to offset the expansion of currency with increasing production.

Contrast a depression. There is as much bank reserve in the country as ever. There may even be as much currency. "But," as former Vice-President Curtis said of capital in 1931, "it is not working." Or, as the *New Yorker* retorted: "It just sits around all day like a Vice-President." The sluggish circulation of funds holds the price level down. As observed above, the circulation of deposit currency was only about a third as fast in November, 1932, as it had been in October, 1929. Businessmen slowed up their expenditures because the prospects of profit were particularly bleak. Under such conditions it is extremely hard to revive circulation by artificial means. The Roosevelt Administration found this out during the heyday of its new-dealing.

To judge by one of his "fireside chats" (radio monologues), the President greatly underestimated the difficulties. He pledged himself to give the dollar the right purchasing power and then hold its value on an even keel. This might be easy if the price level were quickly responsive to a change in the quantity of money. In fact it is not. Generous offers of loans on easy terms did not induce businessmen to borrow greatly increased amounts and spend them faster. As J. M. Keynes observed, a man cannot get fat by just lengthening his belt. That is, big reserves and low discount rates only make room for expansion, but they do not fill the room. To fill the room it was necessary to speed up the turnover of funds. Otherwise, funds which were once spent for goods soon found their way into stagnant bank deposits.

Above all, it was necessary to stimulate investment. Partly with this end in view, Washington embarked on its "pump priming" operations. By making progressively big expenditures, largely on public works which called for heavy equipment and construction materials, it sought to inject funds into circulation faster than they dropped out. If this happened, prices would begin to rise; and it was hoped that rising prices would "prime the pump" by reviving private spending. The experiment was inconclusive. More will be said of that in Chapter XXVIII. The immediate point is this: The quantity theory, although fairly reliable for the long run, is not to be trusted for the short run. It will not work in the short run without powerful government intervention; and as yet there is no satisfactory proof that even such intervention could make it work.

Controls

Two general types of remedy are possible for the injustice and disorder created by great changes in the level of prices. One type would be concentrated on the effects of the changes, without attempting direct prevention of the changes themselves. The other would be primarily a policy of prevention. Both types would make use of index numbers. The problem, although it still lies largely in the experimental stage, or even in the field of speculative thought, is so important as to warrant at least an outline of general principles.

REVISION OF DEBTS

One possibility is the readjustment of debts according to changes in the value of money. This would involve the use of a "tabular standard of deferred payments." Index numbers would be based on tables of commodity prices. Taking as the base the time at which a debt was contracted, the principle is to increase the number of dollars of payments (principal, or interest, or both) as much as the index number of prices has risen when payment is made, or to decrease the number of dollars as much as the index number has fallen. This sort of device found some use in the American Colonies before the Revolutionary War, and in Poland after the World War, receiving government sanction in both cases. Although complicated, it is some protection against unfairness and friction, but it must be understood that debtors and creditors know what it means and recognize its fairness. Otherwise it will be resented by debtors when prices rise and by creditors when prices fall. The remaining expedients have to do with subduing price-level changes themselves.

CHANGING THE MONETARY STANDARD

If the gold standard predominates throughout the world, the greater part of the gold supply will be used for monetary purposes, and especially for bank reserves. The result is, according to one argument, that the price level will be subject to violent change on account of great variations in the relative outputs of gold and ordinary goods. Since gold is an extremely durable metal, annual output is very small in comparison with the huge accumulated total to which it is added; and therefore the fluctuation of the price level is most likely to be occasioned, not by variations in the output of gold, but by variations in the output of ordinary goods. Now, it is theoretically possible to get around this difficulty by scrapping the gold standard altogether and substituting fiat money whose value is kept stable by adjusting the amount of money to changes.

in the volume of trade. This course, so the argument runs, would have the further advantage of obviating the expense of mining, smelting, assaying, minting, shipping, and storing gold.

To this proposal it is commonly replied that the regulators would not actually regulate the currency as suggested. Experience shows that expansion is much easier than contraction. The underlying reason for this fact is often held to be the partiality of the powerful business class to rising prices. In any event, it is a fact. Thus it is more likely, say the opponents of managed fiat money, that inflation will be held in check if the quantity of money is related to the amount of gold.

With respect to both the proposal and the rejoinder it is worth while to repeat, what was discussed at some length in Chapter VI, that the connection between modern money and gold is very remote. Although the purchasing power, in terms of ordinary goods, of one American dollar is "kept equal" to the purchasing power of 15 5/21 grains of .9 fine gold, the value of the gold itself is determined mainly by its monetary use, and very little by its industrial use as an ordinary commodity. If we take T and V for granted in the equation $MV/T = P$, the value of money is determined by the quantity of money. Now, gold is a part of all money, and therefore it helps to determine the value of other kinds of money. Likewise, other kinds of money are a part of all money, and therefore they help to determine the value of gold. But the volume of other kinds of money is so great, in comparison with the volume of gold, that other kinds of money have *much* to do with the value of gold while gold has *little* to do with the value of other kinds of money. The amount of gold has little effect on the amounts of other money—chiefly the demand deposits of commercial banks: the latter can and do fluctuate within wide limits without variation of the former.

"COMPENSATING" THE DOLLAR

A more moderate proposal is to stabilize the price level, not by abandoning the gold standard altogether, but by varying the gold backing of the monetary unit. An outstanding illustration is the plan of Yale's Professor Irving Fisher for "compensating the dollar." The general idea is to increase the amount of gold behind the dollar when prices rise and to decrease it when they fall. In the former case, the number of gold dollars in the ultimate bank reserves is decreased; in the latter, it is increased. Apart from the fact that it would create complications in the field of international trade and finance, and apart from the charge that it would "get into politics," this plan is attacked from two directions.

The first criticism is that the plan would have to change the gold

backing of the dollar enough, not merely to offset changes in the quantity of monetary gold, but to neutralize changes in the circulation rate of currency. We have seen how widely this rate can fluctuate. Perhaps bold and prompt changes in the gold backing of the dollar would *prevent* wide fluctuations in the circulation rate. But we do not know that this would be the case.⁷ The second general criticism is that anything which can be done with the complicated device of "compensation" might be done more simply by the more vigorous exercise of controls which are already at the disposal of our monetary authorities.

EXISTING CONTROLS

As we saw in Chapter VIII, the officials of the Federal Reserve System on one side and the President and his Secretary of the Treasury on the other have a formidable arsenal of weapons for the control of the price level. For purposes of illustration, assume that these authorities are intent on using the weapons vigorously in order to check the sharp rise of the price level which is tending to be occasioned by heavy borrowing and spending on national defense. To begin with, the government could check inflation by putting more emphasis on current taxation and less on government borrowing, by borrowing from individuals instead of banks, and by preventing the use of its defense bonds by individuals as collateral for bank loans. In addition to these precautionary measures:

1) Rediscount rate control could be used vigorously. The rediscount rates of reserve banks should be raised enough to offset the incentive to borrowing which is provided by the rise of prices which is already in progress. To illustrate, if the price level is climbing at the rate of 10 per cent a year, a loan at 10 per cent costs the borrower nothing. The advance in the discount rates charged by member banks should be sufficient to compensate for the rise of the price level; and, since member banks are normally enabled to lend more than one dollar for every dollar which they borrow from reserve banks, the rediscount rates of reserve banks should go higher still. However, the government will be disposed rather to discourage than encourage increases of rediscount rates if it intends that its bonds shall be purchased largely from the expansion of bank credit.

2) Open market control could be used vigorously. Surplus reserves⁸

⁷ In the past the fluctuation of the velocity of circulation in the United States seems to have corresponded closely with the fluctuation of business activity. (See, for example, Carl Snyder, "The Problem of Monetary and Economic Stability," *Quarterly Journal of Economics*, February, 1935, pp. 186-89.) It may be that changes in this velocity would "compensate" for compensatory changes in the gold backing of the dollar to such a degree that fluctuations of business activity would still be attended by fluctuations of the price level.

of member banks could be soaked up by the sale of existing federal securities in the open market. However, the government is likely to oppose the open-market sale of existing securities in competition with the war bonds which it is offering for sale.

3) The minimum reserve requirements of member banks could be raised to the upper limits of 14, 20 and 26 per cent, respectively, for the three classes of member banks. Or, when these limits are already in force, the limits themselves could be raised, although this would require a legislative change. If, for example, the recommendation of Chairman Eccles of the Board of Governors of the Reserve System were followed, the limits would be raised to 28, 40, and 52 per cent. Or, to carry this process to its logical limit, commercial banks might be altogether prevented from creating money by making loans. If it were sought to limit the banks to the function of lending existing money while giving the government exclusive control over the total amount of money, the object might be accomplished by requiring the banks to hold reserves of 100 per cent.

4) The Treasury could decrease member bank reserves by transferring government deposits from member banks to reserve banks, and by borrowing from member banks it could increase the amount of the balances capable of being so transferred. As the object is to curb inflation, it is assumed that the government would not itself spend what it borrowed from member banks.

5) The Treasury could decrease the reserves of reserve banks by demanding gold certificates in exchange for its balances with reserve banks. This expedient could be made the more forcible by linking it with number 4.

In a negative way, too, the President and Secretary of Treasury might accomplish something by promising unequivocally *not* to do such things as: (a) require the issue of additional greenbacks; (b) further devalue gold; (c) buy more gold; (d) buy more silver, devalue silver, or otherwise increase the issue of silver certificates; (e) spend the gold stabilization fund.

CONCLUSION

It is one thing to try to prevent price fluctuations from being caused by *monetary* changes, but another and even more difficult thing to stabilize prices in the face of changes in *goods*. According to one respectable school of thought, more harm than good would come out of an effort to hold the price level up by means of monetary expansion when the volume of production and trade is increasing. This leads us to the problem of the "business cycle," which is considered in the next chapter.

PROBLEMS

1. What it meant by the "price level," or "general level of prices"? By a change in this level? Why should study be focused rather on changes of the level than on the height of the level at any particular time? On relative rather than absolute changes?
2. (a) Indicate by means of an index number the degree of change in the price of one commodity in one month.
(b) Basing your index number on an unweighted arithmetical average, indicate the degree of change in the price level of two commodities in one month.
(c) Why is the unweighted average less reliable for two commodities, or for any small number of commodities, than for a large number?
(d) Now use a weighted arithmetical average to measure the change in the price level of your two commodities.
(e) Do the same thing for three commodities instead of two, and for five months instead of one.
(f) Now use a line graph to indicate changes in the general price level over five months.
3. Discuss the effects of major price-level changes on (a) the relations between debtors and creditors; (b) politics.
4. Discuss the effects of cyclical price-level changes on the relations between employers and employees.
5. "Since one economic class gains what another loses by price-level changes, such changes are neither harmful nor beneficial to society at large." Discuss.
6. "The value of money varies inversely with the price level." Explain.
7. (a) Explain the meaning of the symbols used to express the "equation of exchange."
(b) In what ways can P be changed?
(c) Does this equation really explain the value of money and its changes? Give reasons for your conclusion.
8. What is the essence of the "quantity theory of money"?
(a) Would you expect a substantial increase in the quantity of money, if it occurred during a depression, to raise the price level substantially within a few months? Explain. Would government pump priming have anything to do with the case? What result would you expect if the increase of money occurred in the midst of business revival? Explain.
(b) Suppose that, over a period of five years, the price level rises about proportionately with the quantity of money. Does it necessarily follow that the rise of the price level is explained wholly by the increase in the quantity of money? Explain.
9. Do you believe that the evils of a changing price level could be prevented by using a "tabular standard of deferred payments"? Explain.
10. "The quantity theory of money is disproved by the fact that prices change before the quantity of money is changed." Discuss.
11. Discuss the following devices for preventing marked changes in the price level: (a) fiat money; (b) the "compensated dollar"; (c) the control of bank reserves without changes in the gold backing of the dollar.

12. It is widely feared that the national defense program will cause a great increase in the price level. Explain how the officials of the Federal Reserve System, and the President and the Secretary of Treasury, might undertake to prevent this by the exercise of existing powers.

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XXI

BUSINESS CYCLES: PROSPERITY AND DEPRESSION

Ever since the Industrial Revolution there have been recurrent periods of prosperity and impoverishment but in spite of the long, patient, skilled, and organized inquiries over many years, in the United States, in Great Britain, in Germany and elsewhere, the nature of the cycle is still imperfectly known.

—SIR ARTHUR SALTER.¹

AT THE beginning of the 1920's the world was staggering out of the most destructive war of history. If every scrap of wealth in the richest nation on earth, the United States, had been blotted out, the loss would have been about the same as the economic cost of this conflict. Reckoned partly in wealth which was literally destroyed, partly in wealth which would have been added to the total but for the intervention of war, the loss was so huge that the events of the following decade were necessarily surprising.

In a scant half-dozen years world production was actually somewhat greater than before the war. Presently the currencies of most countries were stabilized; an apparent solution was found for the problem of war debts; and we moved forward into what was easily mistaken for permanent recovery. Then, even more speedily than it had been built up, the illusion was shattered. Within a little over two years after the collapse of our stock-exchange in 1929, the world was in the grip of a depression surpassing anything hitherto known. The output of manufactures and structural materials, and the volume and value of world trade, had fallen further than in any previous depression. The amount of unemployment was unprecedented, over thirteen million persons in the United States alone being out of work. Prices had fallen some 40 per cent, and at least one-third of the world's industrial machine lay idle.

In order to describe what had happened, we may liken a depression to an earthquake. In both cases the havoc wrought depends on two things—the violence of the shock, and the stability of the structures sub-

¹ *Recovery: The Second Effort* (1932), p. 33.

jected to it. In the case of the economic structure, periodic shocks are imparted by the recessions which occur during business cycles. They are especially severe when, as in the late 1920's and early 1930's, an unhealthy condition pervades the world of finance. The stability of the economic structure, on the other hand, is a matter of the "equilibrium" to which reference has been made so many times in the foregoing pages. At all times industry is more or less out of balance. Changes in supply and demand leave some industries overextended and others underextended. Frictions of various kinds prevent movements of resources from restoring the balance at once. Thus there are "structural" maladjustments. Normally, the process of readjustment is reasonably equal to its task, and no very serious condition of topheaviness develops in industry. Sometimes, however, economic changes create a dangerously unstable equilibrium. They did so for some years before 1929. Thus the cyclical downturn which came at the close of the decade was followed by particularly disastrous effects because it caught the economic "order" badly off balance.

"Structural" and "Cyclical" Changes

Although the present discussion has to do mainly with the recurrent disturbances which characterize the business cycle, it will be worth while at the outset to deal at greater length with structural and cyclical changes and the maladjustments which they occasion. Of course any changes in supply and demand may be regarded as causing "structural" changes. That is to say, they change the economic structure in the sense of altering the proportions among different products and industries; and there are structural maladjustments until the process of establishing the new balance is completed. Nevertheless, there are certain changes in demand and supply which, because they occur as part of a rhythmical up-and-down movement, tend to be offset at a later period by opposite changes. Such alterations as they occasion in the structure of industry in the short run are largely undone in the long run. The maladjustments which they cause, instead of tending to be ironed out in a new equilibrium, tend to be followed by maladjustments in the other direction. In short, some changes and maladjustments are "cyclical," and others are not. For those which are not we shall reserve the term "structural."

STRUCTURAL CHANGES

During the 1920's top-heaviness became increasingly apparent in the structure of industry. Among the crude-food industries there was an especially strong trend toward excessive output in sugar, coffee, and wheat.

Of such animal foods as dairy products, however, the supply was smaller than was justified by increasing demand. In the raw-materials industries, surplus capacity was developing, or overproduction had already appeared, by 1928-29, in rubber, mineral oil, silk, copper, lead, nitrates, and iron and steel. In the manufacturing industries, idle plant and unemployment gave evidence of excess capacity with respect to such new commodities as rayon, radios, and automobiles. Toward the end of the decade some industries had failed to reduce output or capacity to correspond with the decline in the incomes of other industries which largely provided them with markets. Cereal foodstuffs were worse off than manufactures, and minerals and metals than cereals. In general, the output of production goods was becoming disproportionately large and badly distributed among different industries.

Perhaps the most striking single fact about these growing maladjustments is the extent to which they were traceable to the World War. Certainly the War was not the only important factor. Yet the pervasiveness of its influence becomes apparent as soon as we look behind a mere description of the unbalanced conditions.

INFLUENCE OF WAR

The War had directly encouraged the expansion of productive capacity for certain goods beyond any probable peacetime requirements. Thus the acreage devoted to wheat was greatly increased in Canada, the United States, and elsewhere. After 1918, however, countries where the War had cut down output began to regain their former positions. Russia finally returned to her prewar situation or better, and her short crop of 1928-29 merely deceived the world as to the actual circumstances. In certain industries, notably iron and steel, plant was extended during the War not only in countries already well industrialized but also in Japan, China, India, and the British Dominions. Some idea of the great increase of manufactures in new regions is suggested as follows by one of our foremost economists:

From 1914 to 1928 the manufacturers of cotton fabrics in Japan increased 530 per cent (value); wool fabrics 650 per cent (value); silk fabrics 730 per cent (value); printing paper 500 per cent (quantity); steel ingots 570 per cent (quantity); cigarettes 310 per cent (quantity); and wheat flour 240 per cent (quantity). In Brazil the number of cotton spindles increased 20 per cent from 1924 to 1927. British India has 8,200,000 cotton spindles and produces 2,000,000,000 yards of cotton piece goods annually. The manufacture of clothing and hosiery in New Zealand increased 340 per cent (value) from 1910-11 to 1927-28, agricultural machinery output increased 175 per cent (value), and

furniture manufactures 180 per cent (value). In the Union of South Africa the total number of employees engaged in manufacturing doubled from 1915-16 to 1927-28. China had in 1929 3,600,000 cotton spindles, and the total number of employees engaged in manufacturing more than doubled from 1914 to 1925.²

Matters were aggravated by technical improvements for which the War was partly responsible. The wheat output was expanded in North America and elsewhere by the increasing use of such machinery as tractors and combines. (The War developed the "caterpillar" tractor.) The same result was furthered by new seed varieties, dry farming, and the growth of fertilizer industries. (The War greatly stimulated the production of natural and synthetic nitrates.) "Rationalization," or the adoption of up-to-date methods and appliances, also contributed to overextension in some lines. For example, Japan's textile industry, because of its rapid growth, became equipped to an unusual degree with the most recent types of machinery. Since other producers continued to use most of their obsolete equipment, there came to be an excess of capacity throughout the industry in general.

INTERNATIONAL ECONOMIC RELATIONS

Serious maladjustments arose from the peculiar international economic relations growing out of the War. The economic center of gravity had shifted from Europe westward. Stripped of capital equipment by the War, Europe in general and Germany especially seemed obliged to plunge into debt to America for goods necessary to prevent appalling conditions at home. Gold flowed toward the United States during most of the 1920's, and, after the middle of the decade, toward France and the Netherlands as well. America was at first glad to lend, since only in this way could she sustain the export demand necessary to keep her productive capacity busy. We had been converted quickly from a debtor to a creditor country. After about 1926, a more or less continuous stream of capital flowed from the United States to Europe and to South America.

To make the situation more critical, there developed the trade restrictions described in Chapter XXX. In our own country there was a desire to protect industries in the abnormal size to which the War had brought them. There was also a fear that Europeans would dump on our markets great stocks of goods—which in fact they did not have, and which they would not even be able to produce for a long time to come. Matters were made worse by the uneven stabilization of national cur-

² A. H. Hansen, *Economic Stabilization in an Unbalanced World*. New York: Harcourt, Brace and Company, Inc., 1932, p. 15.

rencies. For example, France gained at the expense of Britain in the world export market because the franc was stabilized too low and the pound too high.

A growth of mergers and monopolistic practices further disturbed the equilibrium. Output was restricted without corresponding reduction of capacity. Indeed, monopolistic prices encouraged independents to increase greatly the capacity for producing such commodities as coffee and rubber. The circumstances had become such that any serious strain would probably be followed by a collapse of the monopolies and the beginning of cut-throat competition. To this source of instability was added the chronic depression of agriculture discussed in Chapter XVIII. There was further added an inordinate speculation which had driven security prices too high in relation to corporate earnings. Additional strain was created by abnormally great extensions of installment sales and bank loans.

SUMMARY

As a whole, the situation was this: A number of industries, with growing inventories and excessive capacity, were in an exceedingly vulnerable position. The process of readjustment to changed conditions of supply and demand was abnormally incomplete. It had been arrested by the rigidities created by fixed capital, business and labor combinations, economic nationalism, and the fixed debts of industrial and governmental units. It had been arrested also by the War. An example is seen in the decline of Britain's share of the world market for coal, raw iron, raw steel, raw copper, and commercial shipbuilding. The actual decline was no greater from 1913 to 1927 than from 1900 to 1913. But there was the difference that in the latter period the readjustment to the trend was interrupted by the War and that the industries became correspondingly more top-heavy. At the same time the War had interrupted the movement of the "business cycle," thus filling men with the "new era" pride that goeth before a fall. Industry was so badly off balance that a cyclical downturn would be followed by enormous damage. We have now to investigate the general character of cyclical changes.

CYCLICAL CHANGES

Of the cyclical fluctuations of production, consumption, and employment in general, three general types have been distinguished. Taken in the order of their length, that is, according to the time required to move from a given phase of one cycle to the corresponding phase of the next, they are: first, the *long* ("long-wave," "grand") cycle of about forty-five to sixty years; second, the *major* cycle of about seven to eleven years;

third, the *minor* cycle of about forty months. The minor cycles have been more pronounced within the immense internal economy of the United States than anywhere else. Of the long cycles, there have been nearly three in the last century and a half. If we mark each cycle by beginning with a low point, or trough, and then go up to the peak and back down to a trough once more, the approximate dates of these cycles were as follows: For the first, 1790-1815-1850; for the second, 1850-1873-1897; and for the third, whose downswing is not known to be complete, 1897-World War period-. Hereafter we shall refer to the upswings of the minor cycles as "booms" and to the downswings as "depressions," although these terms are sometimes reserved for the higher reaches of the upward movement and the lower reaches of the downward movement, respectively.

If it is borne in mind that successive cycles of a given type are far from being perfectly uniform, it will be safe to make two observations about the relations among various types. First, in the United States, every second or third minor-cycle depression turns out to be a major depression. That is, a major cycle is composed of two or three minor cycles. Second, the minor cycle is strongly influenced by its relations with the long cycle. When it is included in the upswing of the long cycle, its boom tends to be long and its depression short. But its boom dies young and its depression is long lived when it is included in the downswing of the long cycle. And the same general relations exist between the major cycle and the long cycle. It is on this understanding that some writers interpret the circumstances of the Great Depression of the early 1930's as being little short of the blueprints for an ideal disaster. Thus Hansen says:

Now the year 1930, as Professor Josef Schumpeter has pointed out, fell not only in the down swing of the long cycle (Kondratieff), but also formed a part of the down grade of the major cycle (Juglar), and at the same time a part of it (probably the second half) fell in the trough of the minor forty-month cycle (Persons-Mitchell).³

If we remember the unbalanced conditions of the economic structure which was attacked by this unholy alliance, it does seem that we were a bit optimistic in looking for prosperity "just around the corner."

The remainder of the present discussion will have to do mainly with cyclical movements. Moreover, attention will be concentrated on the type of cycle which has been most characteristic of the United States during the last six to seven decades.

³ *Economic Stabilization*, cited above, p. 95.

Characteristics of the "Business Cycle"

In the century which followed the dawn of the Industrial Revolution, England experienced some eleven fairly distinct cycles of prosperity and depression. If for each cycle we mark the time when there was a "crisis," namely, a widespread collapse of credit, the dates run: 1763, 1773, 1783, 1793, 1797, 1810-11, 1825, 1836-39, 1847, 1857, 1866. Taking, now, the period extending from one trough to the next, we find two noteworthy facts. First, there was a great fluctuation of economic activity *in general*. A large net increase would be followed by a large net decrease of bank loans, prices, construction work, production of raw materials, foreign trade, employment, wages. Second, the ten-year interval was very conspicuous.

GENERAL CHARACTERISTICS

Since 1866 cycles have been less regular. In the United States they have displayed approximately the following characteristics: (1) A length of three to four years. Two or three of these "minor" cycles go to make up a "major" cycle. In this discussion the term "cycle," or "business cycle," will refer to the shorter cycle, concerning which there is more general agreement among economists. (2) Economic activity runs 10 per cent to 25 per cent above the long-time trend at the peak of the boom, and falls 5 per cent to 25 per cent below this trend in the trough of the depression. During the Great Depression, however, the decline was abnormally great. (3) The period of expansion is about twice as long as the period of contraction. But, as already observed, the relative lengths of the two are influenced by the relations of the short cycle to the long cycle. (4) Different cycles display similar phases in the same general sequence. (5) The correlation between a given boom and the succeeding depression is closer than the correlation between a given depression and the succeeding boom. Big booms are uniformly followed by big depressions, but big depressions are not uniformly followed by big booms. This fact makes it more reasonable to assume that booms cause depressions than to assume that depressions cause booms.

PHASES OF THE CYCLE

Some idea of the phases of the cycle, and of the factors which play a part, may now be suggested by sketching the movements of a more or less typical cycle. It should be remembered, however, that the factors and their relative weight vary from one cycle to another.

At the beginning, general economic activity is on a line with the

long-time trend. But this trend itself is upward. Population growth and improvements in the arts of production are increasing real income. Thus they are increasing the demand for products in general. As the demand grows, the individual producer, planning for the most part separately from other producers, tends to become too optimistic. He overestimates not only the future demand for his type of product but also his own share of this demand. In his miscalculations he is encouraged by his banker, who lends to him with little reference to the fact that other bankers are equally optimistic about the prospects of other producers. An especially strong demand for bank loans is found among men who wish to borrow for the purpose of financing the construction of capital equipment. Presently the expansion of currency and the rising velocity of its circulation outrun the increase of production, so that prices rise.

BOOM

But prices do not all rise together and to the same degree. There is roughly this sequence: (1) securities prices; (2) raw materials prices; (3) wholesale prices; (4) wages of unskilled labor; (5) retail prices; (6) loan rates. For some time the expansion is cumulative. Seeing sales increase, dealers increase their stocks, partly to meet the growing purchases of regular customers, partly to avoid losing customers and to attract new customers if possible. Retailers speed up purchases more than consumers do, wholesalers more than retailers. The increase of demand is greater the further we get from final consumers. There is a particularly pronounced growth in the demand for production goods. This is partly because extensions are added to the amount of equipment which must be produced in order to take care of ordinary wear and tear. As sales turnover increases, and as rents, wages, freight rates, and loan rates lag behind wholesale prices, business profits swell. There is a "boom."

CRISIS

Yet sooner or later the "lags" are ironed out. As the "slack" of unemployed labor and capital is taken up, wages and other costs rise with increasing rapidity. As the reserve ratios of central banks fall close to the minimum, a heavy brake is put on currency extension, thus checking the price increases which appear early in the sequence. Bankers and sellers get nervous. The former first refuse to make additional loans, then to renew old ones. The latter begin to unload stocks in order to meet their obligations. Dumping pushes down prices. As prices fall, lenders find their loans "frozen." There is a general struggle for solvency, a "spiral of deflation."

DEPRESSION

In the depression which follows, price decreases follow about the same sequence followed by price increases during the boom, although the gamut is usually run at greater speed. During the course of the deflation, producers at first find their selling prices falling faster than their costs. The rapid dumping of stocks by middlemen hastens the decline of prices. As money incomes shrink, the decline of consumption causes a more than proportionate decrease in the demand for capital equipment and raw materials. In general, the bottom of the depression is reached when liquidation is completed and maladjustments are ironed out. As stocks are disposed of, the fall of prices is checked. As bad debts are closed out, excessive capitalizations written down, and excessive investments reduced, the fall of costs is speeded up. Retail prices gradually come into stable relations with wholesale prices, manufactures with farm products, finished goods with raw materials, short-term with long-term money rates. The ratio of bank reserves to bank deposits rises, and the cost of borrowing falls. The stage is set for recovery.

RECOVERY

Revival may be started by a "good break," such as favorable crops or large foreign orders. It may be hastened by a program of government spending. The chances seem best if this spending is so timed as to begin when the process of liquidation is already well along. Otherwise pump priming may postpone readjustments which have to be made before recovery can be put on a stable footing. However, recovery can begin without such forms of help as these.

Since people must live, there are some expenditures which cannot be deferred at all, and there are others which cannot be postponed indefinitely. The production of indispensable goods wears out capital equipment. Semiperishable articles like clothing are used up still faster. When it becomes necessary to replace them, dealers find their stocks dwindling. They have to stop their hand-to-mouth buying and begin to restock. At the same time that capital equipment is wearing out, conditions are favorable for replacement and extension. Labor is plentiful and wages are low. Bank reserves are up and loan rates down, so that companies can borrow cheaply. Increased borrowing increases bank deposits. As business gains confidence, the circulation of funds shakes off its lethargy. Prices begin to rise, and a recovery is under way. It will be followed in due time by a boom, the boom by a crisis, and so on.

So goes the cycle. We consider next some of the explanations which have been offered for its unhappy rhythm.

Theories of the Business Cycle

In order to be taken seriously, a theory of the business cycle ought to account for two facts: that cycles have a rhythmical movement, and that they affect all phases of economic activity. Since the depression is one situation in a series which is regularly repeated, the problem of testing any particular theory may be simplified by inquiring whether the theory offers a satisfactory explanation of *general* and *cyclical* depression. Granting, as Salter has put it, that in spite of much painstaking study "the nature of the cycle is still imperfectly known"—that neither any single theory nor even any known combination of theories renders an altogether adequate account—it will nevertheless be observed that some theories meet the two tests much better than others do.

GENERAL OVERPRODUCTION

One of the most persistent and illogical theories has it that cycles are caused by general overproduction. In its starkest form it runs like this: Modern production is so efficient that consumption cannot keep up with it unless production is periodically throttled down. We first produce so much that our "purchasing power" does not suffice to carry the output off the market at profitable prices. Then we have to take it easy until the surplus is worked off. After that, we do it all over again. But "purchasing power" really consists of products. A mere increase of output would not cause trouble if the outputs of different things were kept in proper balance. In order to cause cycles, economic growth must do more than enlarge the supply of goods and services in general. It must cause *unbalanced* production, or production which gets the outputs of specific commodities out of line with the respective demands for the commodities.

SPECIFIC OVERPRODUCTION

But the overproduction of some particular product, or of a small number, does not offer a satisfactory explanation of general and cyclical depression. As an example, take the familiar overproduction of staple farm crops. As the demand for the products is inelastic, increased production reduces the incomes of farmers. Farming is "depressed." But it does not follow that the reduced outlays of farmers on other products extend the depression in widening circles. The same people who now spend less for farm products have correspondingly more to spend for other products. Further, any depression originating from "surplus farm-

ing" should be, not cyclical, but as perennial as the overproduction of crops themselves.

Or consider an increase in the output of some commodity of elastic demand, say radios. Total money expenditures on radios will increase, and other products will suffer a corresponding loss of money purchasing power. But the loss will be too widely distributed to cause serious general depression. Improvements in the methods of producing particular commodities may aggravate the effects of a cyclical recession by making the economic equilibrium more unstable, but they are hardly enough to explain the coming of the recession. However, *widespread* improvements are another matter. When coupled with general expansions of currency, they may have a great deal to do with general and cyclical recessions.

INDIVIDUAL INITIATIVE

Neither is the cycle satisfactorily explained by the fact that the relative outputs of different industries are determined largely by individual initiative. In any particular industry it is true that underproduction and abnormally high returns tend to be followed by the contrary condition, and so on. The overcorrection of past errors is also aggravated by the disposition of producers and their bankers to overdramatize both good and bad prospects. But the lack of central planning, taken in this sense, is not enough to account for *general* fluctuation. It does not explain why expansion in some fields is not offset by contraction in others, thus preventing any great fluctuation of economic activity as a whole.

WEATHER CYCLES

Noting the recurrence of crises at intervals of about ten years, a British economist, Jevons, advanced the theory that the source of economic fluctuations lies in the recurrence of sunspots. There is a fairly regular sunspot cycle having an average length of 11.4 years. Jevons reasoned about as follows: Sunspot cycles, by affecting solar radiation, cause cycles of rainfall on the earth. The upswing of the rainfall cycle increases crops. This makes raw materials cheaper, furnishes additional business for transportation agencies, and so on, thus generating prosperity. The downswing of the cycle creates the opposite situation. Professor H. L. Moore of Columbia University worked out a similar theory, except that he related weather cycles to the eight-year cycle of the planet Venus. Although the weather undoubtedly affects economic conditions, these theories are weak in two respects. First, business cycles do not move in close relations with the cycles in question. Second, crops do not exhibit well-defined cycles. Further, owing to the character of the demand

for farm products, it is by no means certain that a big crop tends to generate prosperity.

SELF-GENERATION

Some economists, notably W. C. Mitchell, lean to the belief that the general character of the present economic order causes cycles to be "self-generating." This order is characterized by much capital equipment, by the intervention of middlemen between final consumers and the producers of raw materials, by the flexibility of credit, and by various "frictions" which impede readjustment to changes of supply and demand. Under these conditions, each phase of the cycle automatically generates the next.

Begin, say, with the prosperity phase. Currency expansion and stocking up on the part of middlemen raise prices. Frictions in the price system create lags, and lags have the result that entrepreneurs find their selling prices rising faster than their costs. But as the slack of unemployed resources disappears, and as the reserves of banks draw near to the minimum, costs rise faster at the same time that the increase of demand is checked. With the fall of profits, dealers stop stocking up. Hence demand declines everywhere except in retail markets. As businessmen curtail their expenditures, incomes in general decline. Then demand falls off even in the retail markets. The decrease is greater the further we get from consumers. In order to meet commitments, dealers dump stocks, the fall of prices is hastened, and depression is in full swing. But when existing stocks are worked off and used up consumers begin to buy again. Then there is restocking, which is more and more pronounced as we go up the line from retailers to sellers of raw materials. Recovery leads to prosperity, and the cycle is repeated.

The explanation of the cyclicity—the rhythm and periodicity—of economic fluctuations doubtless lies in certain comparatively stable characteristics of the economic system, as contrasted with "outside forces" such as weather changes.⁴ It does not follow, however, that each phase of the cycle automatically generates the next in a perpetual sequence. If economic cycles were really self-generating, the correlation between a

⁴ Among the more stable "inner" characteristics of the economy are: the division of production between capital goods and perishable consumption goods; the connection between bank loans and the creation (or destruction) of money; the division of the function of creating capital into saving on the one hand and investment of savings on the other; the comparative immobility of specialized agents of production; the comparative rigidity of prices controlled by labor unions, monopolies, and public regulatory bodies; and a set of human beings whose powers of analysis are greatly weakened by vanity, wishful thinking, dramatic propensities, and emulation. Among the stronger "outside" forces playing on this economy are: the introduction of new products and techniques of production; weather changes; changes of legislation; and the recurrence of wars.

depression and the following boom ought to be as close as the correlation between a boom and the next depression. But in fact this is not so. Although big booms are generally followed by big depressions, it is not true that big depressions are ordinarily succeeded by big booms. Thus it seems that the role of a depression is to "mop up" the excesses of a boom, and that the explanation of the boom itself must be sought in something else besides the conditions of the depression which preceded it.

ECONOMIC INEQUALITY

The fundamental cause of the boom is found by some writers in the uneven distribution of income. According to John A. Hobson, for example, economic inequality gets us into trouble substantially as follows: The rich devote huge amounts of their incomes to saving and investment. Saving holds down the demand for consumption goods, and sooner or later it also increases their supply because the investment of savings enlarges the stock of production goods. Presently the demand is inadequate to take the supply off the market at profitable prices. Later, as the decline of profits decreases the incomes of the rich, saving and investment decline, thus curtailing production. Then consumption catches up, prices and profits rise, the incomes of the rich increase again, and so on as before. Unless the rich can be induced to save less and spend more on consumption goods, we must either even up the distribution of income or else endure cycles indefinitely. This general theory is designated by various terms, such as "overproduction," "underconsumption," "oversaving," and "the dilemma of thrift." In spite of its wide popularity, it is open to serious criticisms.

First, it attributes general fluctuations to fluctuations in the demand and supply of consumption goods. The rise and fall which it mainly emphasizes is that of relatively perishable goods like foodstuffs and textiles, not that of relatively durable goods like buildings and machinery. But in actual cycles the fluctuation in durables is far more pronounced than the fluctuation in perishables. Taking the 1928 output as 100, the production of various goods in the United States behaved as follows from 1928 to 1930:

	1928	1929	1930
Iron and steel	100	109	80
Automobiles	100	123	77
Textiles	100	107	85
Food products	100	99	95

Note that the relatively durable goods, iron and steel and automobiles, increased more in the prosperous period (1928-29) and fell more during

the dull period (1929-30) than did the relatively perishable goods, textiles and food products. The comparative behavior of the two kinds of goods was essentially the same in Germany, Poland, Sweden, and Great Britain. Now, as we shall see later, the greater instability of the durable goods might be explained by "derived demand." For example, an increase in the demand for textiles tends to cause a more than proportionate increase in the demand for textile machinery, because it calls for an extension of equipment at the same time that replacement has to be kept up. But the present theory cannot use this explanation satisfactorily, because it is based on largely incorrect assumptions about both investment and economic inequality.

Second, the oversaving theory assumes that fluctuations of investment—in the spending of savings for capital goods—correspond closely with fluctuations of savings. This is not so. What actually happens is that investment fluctuates much more than saving. During depression, saving exceeds investment. Producers are reluctant to borrow, and savers to lend. Savings go largely unspent for durable goods, piling up in the form of stagnant bank deposits with a sluggish turnover. In prosperity, investment exceeds voluntary saving. Corporations invest earnings which would not be invested if they were paid out as dividends to stockholders. The rise of the price level also causes involuntary investment. As long as loan rates lag, borrowers get funds for less than they seem to pay, because rising prices give them at least a part of what they pay as interest. Even the expectation of a change in the price levels affects investment. Thus Hardy says:

For example, it is now perfectly clear that at the close of 1919 the world had been producing too much of certain perishable consumption goods, notably sugar, textiles, and rubber tires, and not enough of such durable goods as houses, street cars, and bridges. This is the natural tendency of production at times when it is anticipated that over a long period the tendency of prices will be downward. Men are willing to pay high prices for the goods which they buy for the immediate future, but balk at paying peak prices for permanent construction.⁵

In short, the inequality-underconsumption theory renders a very faulty description of changes in the volume of production goods.

Failing to describe accurately the relation of saving to investment, this theory also fails to describe accurately the relation of economic inequality to saving. It does not draw a clear distinction between mere *uneven* distribution and *increasingly* uneven distribution. There is no spe-

⁵ C. O. Hardy, *Risk and Risk-Bearing*. Chicago: University of Chicago Press, 1923, p. 367.

cial reason why uneven distribution alone should bring on a depression, as long as inequality does not become more pronounced.⁶ Leave the distribution alone and the distribution of money demand among different kinds of products should remain stable, unless some *other* economic change occurs. It is true that an uneven distribution tends to concentrate demand on durables. But, unless the inequality increases, this does not cause an inadequate demand for such perishables as are actually produced. Instead, the tendency is for the output of perishables to be adjusted to the low demand, and the output of durables to the high demand, both types of goods continuing to bring back their costs of production.

In practice, however, distribution becomes gradually more uneven. But the reason is not that income is taken from the poor and given to the rich. If it were, more or less money demand would shift from staple articles of consumption to luxuries and capital goods, and the industries producing the former type of goods would be correspondingly depressed. The main reason is that improvements in the arts of production increase social income,⁷ and that, while all classes benefit, more of the increase goes to the rich than to the poor. But this obviously does not mean that the demand for consumption goods falls off.

Yet, despite the shortcomings of the inequality-underconsumption theory, economic growth might account for our troubles in other ways. It might do it by making the price level fall. Or it might do it by causing currency extensions which upset the relations between durable and perishable goods. This leads us to two more theories.

FLUCTUATIONS OF THE PRICE LEVEL

Without attempting to review as a whole the theory that price fluctuations cause cycles, let us consider the proposition that falling prices cause general depression. It makes a difference what causes the price level to fall. The cause may be either an increase of production or a decrease of the funds exchanged for products.

It would hardly be denied that "deflation," a contraction of currency, could cause depression. In the general fall of prices, some prices would lag behind others. Businessmen would suffer from the lag of wages, rent,

⁶ But there is reason to believe that unevenness of distribution *aggravates* a fluctuation originating from some other cause. It makes the relative size of the affected area bigger than even distribution would make it. That is, it makes for a high ratio of durables to perishables. To use an analogy, the human body would be more disturbed than it is now by the rhythm of the heart if it contained a much larger heart expanding and contracting to the same degree as the present one.

⁷ Population growth, as well as technical progress, is of course a factor in the increase of social income. But the steady and marked increase in *per capita* income, which has about quadrupled in England in the last 125 years, shows that technical progress is the more important factor of the two.

and loan rates. For a time, and perhaps as long as the deflation continued, their selling prices would fall ahead of their costs. In similar fashion, lags could cause a boom during a period of inflation. To go further, the alternate expansion and contraction of currency could give us much the same phases as were outlined under the "self-generating" theory of the cycle. The main difference would be that the cyclical clock would be re-wound now and then by circumstances like gold discoveries and tinkering with the currency. This is the general theory held by such students as Professor Irving Fisher. However, it is apparently necessary for one who holds it to argue that cycles are sufficiently irregular to be explained by nonrecurrent factors.

But a price-level decline which is caused by the increasing production of goods is another matter. In this case, the fall of prices comes *after* the reduction of costs. Any producer who lowers his prices, say 5 per cent after first reducing his cost 5 per cent, certainly does not decrease his income as a result. Instead, his profits are increased by the increased volume of sales. Nevertheless, a *rapid* decline of prices originating from this cause is capable of causing trouble. Industries which produce inelastic-demand goods must give up productive power to those which produce elastic-demand goods, and they will be depressed while they are making the necessary readjustments. The different firms in any given industry are not equally prompt to adopt improvements, and the laggards will suffer from the competition of the others. Further, even the more progressive producers do not cut their prices merely because their costs have fallen. Their habit is to wait until the accumulation of unsold stocks, namely, "depression," obliges them to do so.⁸ These maladjustments may not cause general and cyclical depressions, but they surely increase the severity of such depressions. And apparently they serve in part to explain the fact that depressions which occur in a long period of falling prices are abnormally protracted.

FLUCTUATIONS OF INVESTMENT

Among careful students the conviction grows that the most important single cause of cycles is to be found in fluctuations of investment. In order to see what the theory is, let us first observe the following facts about saving and investment.

First, saving refers to what we withhold from spending on "perishables," such as food, while investment refers to what we spend on "durables," especially capital equipment. Investment refers also to purchases of reserve stocks of goods. To avoid cumbersome wording, how-

⁸ Cf. A. H. Hansen, *Economic Stabilization*

pp. 284-90.

ever, the following account will use the one term "durables" to cover investment. Suppose that our income in a given period is \$1,000, of which we spend \$100 on durables and the other \$900 on perishables. Then we save and invest a tenth of our income.

Second, the function of adding to the economy's supply of capital instruments is divided into two parts, saving and investment. Further, the two parts of the function are to a large degree performed by two different groups. While people in general, and the wealthy in particular, save money, it is predominantly business men and government officials who invest. The latter group invest largely by means of borrowing and spending the proceeds of loans for capital equipment.

Third, fluctuations in the total money expenditures of an economy per unit of time (this is the same thing as fluctuations of the total money income of the economy, if we look at the process from the standpoint of the receivers of the payments) are occasioned predominantly by fluctuations of *investment* expenditures. Relatively speaking, total money outlays on perishables are very stable while total money outlays on durables are very unstable. To illustrate, begin by assuming that total money expenditures in a given period, say a given week, are \$1,000. Hence \$1,000 of income is available for expenditure in the next week. If, in this second week, only \$900 are spent for perishables, there are savings of \$100. But either more or less than \$100 may be invested in this week. Investments in excess of \$100 may be made by dishoarding—spending money which has formerly been lying idle—or, what is likely to be more important in practice, by spending additional money which is created by the net expansion of bank loans and deposits. On the other hand, investment expenditure may fall short of \$100 because of a net contraction of the amount of money or because of hoarding. In the former case, total money expenditures increase, thus tending to increase employment and generate prosperity, while in the latter case they decrease, thus tending to cause unemployment and depression.

Fourth, saving and investment can get out of line because of differences between what we shall call the "profit rate" and the "loan rate." The first means the rate of return received from investment; the second, the rate of interest paid on borrowed funds. A relatively low loan rate discourages saving, while a relatively high profit rate encourages investment. In this connection it should be remembered that the total volume of bank loans can be greatly expanded or contracted. If the profit rate exceeds the loan rate, businessmen are inclined to borrow from banks more dollars than are voluntarily saved. As will be explained in a moment, they spend their additional funds mainly for durables, and this

makes investment larger than the people as a whole would voluntarily make it. If, on the other hand, the loan rate exceeds the profit rate, businessmen are discouraged from borrowing and investing as much as is currently saved.

Fifth, investment is powerfully influenced by the loan rate. As we learned in Chapter XII, the price of any highly durable good tends to equal the *present* money value of all the future services. Services which are now a year away, two years away, and so on, are expected to have certain money values when they come to be realized. Taking the expected future money values for granted, the present money values of any given future services depend on two things—how far the services lie in the future, and the rate at which future values are discounted because we must wait to get them. The more remote the services and the higher the discount rate, the more the present values fall short of the expected future values. It is clear that the discount rate will have a much stronger effect on the value of a highly durable good, which has many successive future services to discount, than it will have on the value of a highly perishable good, whose services are not spread over the future. Suppose a piece of land is so durable that it is expected to yield perpetually an income of \$90 a year. Then the price tends to equal \$90 divided by the discount rate, or loan rate. Decreasing this rate from 4 per cent to 3 per cent would tend to raise the price from \$2,250 to \$3,000, while increasing the rate from 3 per cent to 4 per cent would tend to lower the price from \$3,000 to \$2,250. By contrast, milk is so perishable that it has almost *no future services* to discount, and hence its price is not much affected by a change in the discount (loan) rate. When, therefore, changes in loan rates change the total volume of deposit currency, it is investment, or spending on durables, which feels the main effect.

Now to sketch the investment-fluctuation theory:

Let our money income during a given period be represented by \$1,000. At the outset, the loan rate and the profit rate are the same, say 4 per cent. Saving and investment are in balance. At the rate of 4 per cent, the amount of voluntary saving is equal to what businessmen borrow and invest. Assume that \$900 goes for perishables, while the remaining \$100 is saved, borrowed, and spent on durables. At this point either improvements in the arts of production raise the profit rate above the loan rate or else the banks lower the loan rate below the profit rate. In either case, borrowing is increased. Hence the supply of money increases from \$1,000 to, say, \$1,200. Now assume, for the reason outlined above, that the whole of the additional \$200 is spent for durables in the form of capital equipment. The demand for durables rises sharply. There is a

spurt of investment. For the time being, investment, which formerly accounted for a tenth of all spending, accounts for a quarter of all spending.

Now the additional \$200, when the borrowers spend it for labor, raw materials, and so on, comes into our hands as money income. As it does so, however, we decline to save as much as a quarter of the total \$1,200. Instead, we want to save, as before, only about a tenth of our total money income. Therefore demand shifts from durables to perishables. Resources become more valuable in producing perishables, less valuable in producing durables. In borrowing money, the producers of durables have to compete with the producers of perishables. They have embarked on production on an abnormally large scale, expecting that the abnormal demand for their output would continue. Now they discover their mistake. They are hit by both falling demand and rising costs. They cannot bring to completion many of the projects which they have started. Much capital is wasted, and throughout the industries which produce durables a depression sets in. The stage will not be set for lasting recovery until a proper balance is established between durables and perishables.⁹

In order to start a boom, it is only essential that the loan rate should be below the profit rate. The boom may be launched by a rise of the latter rate rather than a fall of the former. That is, it may be the conditions of production, rather than bank policy, which begin the investment spurt. Thus inventions, the development of new products, and the like, may start the spurt by raising the profit rate, and the producers of durables may get into trouble by overestimating the future demand for their products. In practice the two factors—improvements on the one hand and currency expansion on the other—are likely to work together.

Conclusions

The number of explanations offered for depressions and cycles may seem to justify the saying that if all the economists in the world were placed end to end they would not reach a conclusion. In reality this is not the case. It is true that the account of changes which are so complex is still far from adequate. Yet it is fair to say that the diversity of opinion

⁹ A very readable detailed account of the procedure is given by Lionel Robbins, *The Great Depression* (1934), Chap. III. For an elaborate analysis and criticism of "over-investment" theories of the cycle, see Gottfried von Haberler, *Prosperity and Depression* (1937), Part I, Chap. 3. Haberler points out that, in order to establish a "proper balance," it might not be necessary to *reduce* the supply of capital equipment—that such new capital goods as had been brought to completion by the investment spurt could be *maintained*.

among responsible students is a matter more of differing emphasis than of disagreement about the facts of outstanding importance.

Even with respect to the problem which probably evokes the greatest variety of solutions, namely, the problem of the *rhythm* of the cycle, there is much common ground. It is generally agreed, for example, that the movement is too regular to be explained by such irregular occurrences as wars and currency manipulation, that the explanation must be sought in comparatively stable characteristics of the modern economic world. Among the more stable characteristics we find the frictions of the price system. Thus it may be that economic growth, although having a rather steady *long-run* trend, moves upward in cycles because it encounters these frictions. With respect to other problems of the cycle there is still more general agreement. This is true of the following problems.

THE SEVERITY OF DEPRESSIONS

There is general agreement as to the conditions which tend to prolong and intensify depressions. A depression tends to be especially long when it occurs during a long period of falling prices. It tends to be unusually intense when the cyclical downturn catches the economic structure in a state of very imperfect readjustment to "structural" changes. Depressions are likely to be violent after major wars, because, in addition to monetary disturbances, there have been great structural changes and the process of readjustment has been interrupted.

THE MOVEMENT OF THE CYCLE

It is generally agreed that the explanation of a cycle logically begins with the explanation of a boom. As already pointed out, this is because the correlation between a boom and the ensuing depression is closer than the correlation between a depression and the ensuing boom. There is further general agreement concerning the factors which play important parts in initiating a boom, in magnifying a boom, in stopping a boom and bringing on depression, and in effecting recovery from a depression.

BEGINNING OF A BOOM

A boom typically begins with a spurt of investment, an increase of expenditures on capital goods. The capital goods may consist mainly of industrial equipment, buildings, and the like; or they may consist chiefly of inventories piled up by middlemen. In the boom of the late 1920's there were exceptionally heavy expenditures on fixed plant and equipment; prior to the recession of 1937-38, in inventories. As a rule the inventory booms are followed by shorter and less serious depressions than

are the booms in railroads, public utilities, manufacturing plants, and building construction. A spurt may originate in such a nonrecurrent factor as heavy government expenditures for war or depression relief. But a more important and recurrent cause seems to be economic growth coupled with credit extension. This raises the profit rate and lowers the loan rate, thus encouraging an exceptional development of the demand for capital goods.

GROWTH OF A BOOM

Once under way, a boom tends to be augmented (or we may say that a "revival" tends to assume the proportions of a "boom") in several ways. One factor is sheer optimism concerning business turnover and prices. "Errors of optimism and pessimism" are greater among people associated in groups than they are with relatively isolated individuals. A second factor is "sticky prices." For example, the lag of rent, wages, and interest behind wholesale prices temporarily swells the profits of entrepreneurs. A third factor is the continued extension of currency. With the rise of prices, the money value of collateral increases, so that bankers are encouraged to expand their loans.

A fourth factor is the "acceleration" of "derived demand." To illustrate, the demand of retailers in the wholesale market is derived from the demand of consumers in the retail market. And a 10 per cent increase in the demand for certain goods at retail may cause more than a 10 per cent increase in the demand for the same goods at wholesale. To show how, assume that a retailer typically sells 1,000 units of goods a month, and that he keeps on hand at all times a stock of 1,000 units. Now consumer demand rises from 1,000 units to 1,100 units a month. In making his purchases for the next month, the retailer orders not only 100 more units to take care of the expected increase of sales but also another 100 units to bring his stock up to 1,100. In the next month after this, however, if there is no *further increase* of consumer demand, our dealer's demand in the wholesale market will actually decrease—from 1,200 to 1,100 units. In fact, the consumer demand must increase not less than a further 50 units to prevent an absolute decline in the demand at wholesale.

Acceleration extends not merely from retailers to wholesalers but also from wholesalers to manufacturers and from manufacturers to sellers of raw materials. It also applies with great force to the demand for capital goods. To illustrate, say that we have \$1,000 worth of textile machinery, and that fresh purchases at the rate of \$100 a year are required to take care of depreciation. As long as the demand for textiles is stable, the

demand for the equipment is \$100 a year. But if the demand for textiles rises 10 per cent, thus calling for 10 per cent more equipment, the total demand for equipment will increase 100 per cent, or from \$100 to \$200. But, as we saw above, there will later be an absolute decrease in the demand for equipment unless there is not merely a further increase but a large further increase in the demand for textiles.

END OF A BOOM

The boom is first arrested, and finally stopped, as follows. As the ironing out of lags causes costs to catch up with selling prices, business profits decline. Labor disturbances, a decline in the average efficiency of labor, and the increase of industrial waste, all help to raise costs of production. For the reasons already indicated, the principle of acceleration ceases to work for middlemen and the sellers of raw materials and durables, and begins to work against them instead. Errors of optimism begin to give way to errors of pessimism. Owing to the fall of the reserve ratios of central banks, and to the apprehensions of bankers, currency extension is slowed down. Meanwhile, as we have seen, demand is shifting from durables to perishables, a fact which serves to increase the caution of bankers. As currency expansion is arrested, or as it is stopped and a contraction sets in, a crisis is reached, and the downturn of the cycle begins.

DEPRESSION AND RECOVERY

For a time the same factors which previously augmented the boom serve to make the depression cumulative. Selling prices, pushed down by the dumping of stocks, fall faster than costs; derived demand works in reverse; the former optimism of businessmen and bankers is supplanted by panic fear, and there is a desperate struggle for solvency. But, as stocks are liquidated, as the using up of consumers' goods and capital revives demand, as the favorable reserves and low discount rates of banks encourage borrowing, and as maladjustments in general are straightened out, another turning point is reached. Revival begins, and another cycle is under way.

GOVERNMENT INTERVENTION

There is also substantial agreement with respect to the part that should be played by government intervention. A government may intervene either to promote recovery from a given depression or to prevent another serious depression from coming. In general the adage holds that "an ounce of prevention is worth a pound of cure." The best way to prevent depressions is to prevent booms. It is difficult at best to stimulate

recovery, and there is always the danger that the stimulants used will serve to aggregate another depression by first encouraging a boom. There is little likelihood of stable recovery until the excesses of the preceding boom have been largely corrected. Government pump priming may help *if* it is well designed and properly timed. It probably should not be applied in strong doses until liquidation has had a chance to do essential groundwork. It must be large enough and kept up long enough to raise prices. It should not serve to protect conditions of overextension or overcapitalization. And it should be withdrawn soon enough to prevent its starting another boom. A memorandum on inflation rendered by twelve University of Chicago economists in the spring of 1933, when the Great Depression had already hit bottom, probably represents fairly the views of economists in general. The memorandum concluded:

. . . successful resort to fiscal methods for terminating deflation will present the very serious problem of keeping recovery within safe bounds. A merely salutary inflation-treatment will fail to satisfy many groups. . . . It is properly a most temporary expedient, to be abandoned (and reversed) long before many individual industries and classes have obtained the measure of relief which justice might prescribe.

But the main remedy for depressions lies in the prevention of booms. Unless the total amount of investment and the distribution of the total among different industries are held under control, the balance of industries will require periodic readjustment, and the task of restoring balance will be long and painful. As long as there is economic growth, economic fluctuation is not wholly avoidable. The banking system can exercise only a limited control. If an excessive expansion of loans could be prevented by beginning early and boldly, it would still be necessary to control the relative outputs of durables and perishables. Perhaps this could be done by controlling the distribution of bank loans. If not, an even more "socialistic" expedient might be tried—government regulation or operation of the more important "heavy" industries which produce capital equipment. As these industries are in general characterized by "monopolistic competition" (see Chapter XV), and as they aggravate depressions by means of their "sticky prices," the case for such control is far from being weak. The essential problem is both economic and political. It is to ameliorate "growing pains" without seriously arresting economic growth itself, and to do so without making unduly rapid and alarming changes in the system of private enterprise.

PROBLEMS

1. Distinguish between "structural" and "cyclical" economic changes. What are the leading types of "cycle"?

2. Explain what grounds there were, shortly after the beginning of the Great Depression, for being skeptical of the proposition that "prosperity is just around the corner."

3. Describe (a) the outstanding characteristics of the business cycle in the United States; (b) the leading phases of the cycle.

4. Is the overproduction of staple crops enough to account for the coming of a general depression? For the rhythmical recurrence of general depressions? Explain in both cases.

5. "The cause of depressions is general overproduction. The productive power of modern equipment and methods is so vast that consumption cannot keep up with it unless production is periodically arrested by depressions." Discuss.

6. "The real explanation of depressions is this: We produce so much that our purchasing power cannot take the output off the market at profitable prices. Thus we must either slow production down or else increase purchasing power." Discuss.

7. "The source of depressions is really economic inequality. As we increase production, we fail to increase wages correspondingly, and therefore consumer purchasing power fails to keep up with output."

(a) Discuss this proposition as it stands.

(b) Suppose economic inequality is held guilty in the sense that it encourages saving, and that saving both decreases the demand and increases the supply of products. Do you agree with this theory? Explain.

(c) Is it possible that an increase in the degree of economic inequality might cause a depression? Explain. Would it make any difference how the change in the personal distribution of income was brought about? Explain. Do you think it likely that this really has been an important cause of depressions? Explain.

8. "Owing to the inherent characteristics of our economic order, cycles are self-generating, one phase of the cycle automatically generating the next, in endless succession."

(a) Amplify the statement enough to show what is meant by the self-generation theory.

(b) Do you subscribe to this theory? Explain.

9. "The cyclical changes of business are caused by a factor lying outside the mere organization of our economic system. They are caused by cyclical changes in the weather." Explain the theory and criticize it.

10. "The most important cause of a depression is the fall of the general price level."

(a) Would it make any difference what caused the price level to fall? Explain.

(b) "It is apparently necessary for one who holds this theory to hold also that cycles are sufficiently irregular to be accounted for by nonrecurrent factors." Explain.

11. "A boom, and a subsequent depression, may be caused by a spurt of investment. Such a spurt may occur because bankers put the loan rate below the profit rate. Or it may occur because inventions, the development of new products, or some similar factor, raise the profit rate above the loan rate."

(a) Explain how a spurt of investment may cause a boom and a depression.

(b) Is it possible that an investment spurt may start without the encouragement of bankers but be accentuated by such encouragement at a later time? Explain.

12. "Once under way, a boom is likely to be intensified by *derived demand*."

(a) Illustrate by showing how a given increase in the demand for shoes in the retail market tends to affect the demand in the wholesale market.

(b) Illustrate by showing how an increase in the demand for shoes tends to affect the demand for shoe machinery.

(c) Illustrate by showing how an increase in the demand for apartment-house services tends to affect the demand for building construction.

(d) Taking any one of these cases, show how the derived demand may decrease even though the demand from which it is derived continues to increase.

13. What factors first arrest and eventually terminate (a) booms; (b) depressions?

14. Point out a danger of inflation as a measure of recovery. At what stage in a depression would government pump priming have the best chance of success? Explain. How long, if attempted at all, should the priming be continued? Explain.

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PART VI. DISTRIBUTION: *Factor Costs and Personal Incomes*

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XXII

RENTS

We own America. We got it, God knows how, but we intend to keep it, if we can, by throwing all the tremendous weight of our support, our influence, our money, our political connections, our purchased Senators, our hungry Congressmen, into the scale against any legislature, any political platform, that threatens the integrity of our estate.¹

Introduction to Distribution

THUS FAR, our study of prices has related primarily to the prices of products. We turn now to the prices which are paid for the services of productive agents. Depending on the point of view, these prices have two aspects. From the point of view of those who pay them, they are *costs*. Thus, a business man may either explicitly pay rent for the use of land owned by somebody else or he may implicitly pay rent—charge himself rent—for the use of his own land; but in either case the rent is a cost. From the point of view of those who receive them, however, these prices are *income*. As costs, they affect, for better or for worse, the distribution of productive power between different fields of production. As income, they affect, for better or for worse, not only the personal wealth or poverty of human beings but also the supply of productive power.

THE "PRODUCTIVITY-OWNERSHIP" PRINCIPLE

This dual status of the prices of productive services prevails under what is roughly termed a "system of private property." That is, the private rights which collectively comprise "private property" include, to one degree or another, the right of an individual to take as his personal income the value of the services of certain productive agents, which he is said to "own." Thus we have a two-sided principle of distribution—

¹ Statement made by an "economic royalist" named Frederick Townsend Martin. Cited by W. M. West, *A History of the American Nation*. New York: Ronald Press Company (1929), p. 764.

a principle in accordance with which productive services are distributed between entrepreneurs and incomes are distributed between owners of productive agents. To emphasize its double character, let us call it the "productivity-ownership" principle. On the productivity side, entrepreneurs tend to pay for productive services according to their marginal productivity. The product properly attributable to any given agent of production is the *marginal* product of the agent times the number of units of the agent. On the ownership side, people tend to receive "rents" according to the marginal productivity of *their* physical agents of production, wages according to *their* labor, and so on.

THE LEADING PROBLEM OF "DISTRIBUTION"

From the nature of the productivity-ownership principle it follows that the price of any type of productive service raises three general problems. The first problem is the *determination* of the price. Here we want to know what determines the marginal productivity of the agent, and how accurately or inaccurately the price probably expresses this productivity. The second problem is the result of *paying* the price, as a cost of production. Does this tend to distribute the available supply of the service economically between different fields of production? The third problem is the *private receipt* of the price, as personal income. It is easy to drop into the error of supposing that payment, on the one hand, and private receipt of the payment, on the other, are necessarily joined. They are not. For example, the government could own land and factories, collect rent payments from entrepreneurs to whom it leased these agents, and dispose of the rent as it saw fit. This would leave one private property right, that is, the private right of exclusive use; but it would destroy another, that is, the private right to take income arising from the use. We wish to know how the private receipt of payment for the productive service affects the personal distribution of income, and also what bearing it has, in the long run, on the quantity of the service.

Rents

With some \$250,000 picked up in the fur trade, which had been characterized by strong-arm methods and the debauchery of Indians and employees, John Jacob Astor turned his talents in the early 1800's to real estate. Buying mortgages wholesale and foreclosing without mercy, leasing land on the condition that it be improved and taking it back with the improvements, he acquired, among other things, a tract now stretching from Broadway to 12th Avenue and from 41st to 47th Streets in New York City. His fortune, estimated at twenty to thirty millions of dollars,

came mainly from the increasing rent of land. While he lived, the value of some of his land increased 10,000 per cent, and since his death his investments have made several hundred descendants wealthy. Substantially the same source of wealth has been enjoyed by the descendants of Marshall Field and others. Yet certainly rent is not always a road to riches. On the contrary, the decreasing rent of land underlies the "plight of the farmer" with which our Department of Agriculture has been struggling for years.

THE MEANING OF RENT

Economic rents mean the marginal products of physical agents of production, such as docks, buildings, land. The marginal product of a physical agent (other than labor) is a *net* product. It does not include outlays needed to "cover depreciation," that is, to conserve the agent or replace it when it is worn out. It is the product yielded by *using*, not *using up*, the agent. Thus, a loss of fertility caused by producing a crop is excluded from the economic rent of land. Again, the "stumpage" paid to the owners of timber land and the "royalties" paid to the owners of mineral land are mainly payments for the privilege of using up exhaustible resources. *Contractual* rents commonly include items, notably taxes and allowances for depreciation, which are excluded from economic rents. Further, that part of a contractual rent which is paid for the net marginal product of the agent is almost invariably unequal to the marginal product, and the difference is sometimes great enough to raise an important problem.

RENTS, INTEREST, AND WAGES

The selfsame product may be termed either rent or interest, depending on the way in which it is computed. To illustrate, say that the annual net marginal product of a certain building is \$4,000. Stated as so much *per building*, this product is rent. Stated as a certain per cent of the *value* of the building—for example, 4 per cent of \$100,000—this product is interest. The essential difference is the difference between two ways of stating the *same* marginal product. On the other hand, rent differs from wages because of a fundamental *difference* between the marginal product of a nonhuman physical agent and the marginal product of a human agent. In the case of ordinary physical agents, as we have seen, we exclude from the marginal product the cost of maintaining and replacing the agent. In the case of laborers, we include this item as a part of the marginal product: wages include the cost of maintaining and replacing laborers—the outlays made by laborers in maintaining themselves and

rearing children. The reason is that, in a society of free men, ownership in laborers vests in the laborers themselves. The valuable products used up in maintaining and replacing laborers are valuable to the laborers, and laborers are *part* of the society. The point will be made clear by contrasting American laborers with, say, mules or slaves, or even with the laborers of national states in which the private rights of laborers are at a minimum.

RENT PROBLEMS

In the following discussion, attention is centered on land rent. As far back as 1881, in his famous *Progress and Poverty*, Henry George distinguished between the *payment* and the *private receipt* of such rent. He granted the desirability of payments equivalent to marginal products. But he believed that the private receipt of the payments not only enables landowners to exploit other groups but also decreases the productivity of land. Whatever we may think of his proposed reforms, which we shall consider later, he correctly identified the main problems raised by land rent. Below we deal, in order, with the determination of rent, the consequences of paying rent, and the consequences of the private receipt of rent payments. Finally, we inquire into the possibility of regulating rent payments in such a way as to reduce economic inequality without decreasing the productivity of land.

The Determination of Rent

The economic rent of land is simply the marginal product of land. Thus the *cause* of rent is the cause of the fact that the land yields a marginal product. This is true regardless of the number of qualities of land in existence. The *measurement* of the rent of a given type of land may be expressed as the difference between the marginal product of this land and the "marginal product" of zero which is yielded by no-rent land. Differences of rent on several types of land can be measured in the same way. But the cause of rent on one type of land is not the fact that there is no rent on another type. Instead, the cause is that the combination of land with other agents of production is such as to make the land yield a marginal product. We begin with the cause of rent on one grade of land, leaving the cause of differences of rent for later discussion.

RENT ON ONE GRADE OF LAND

To illustrate the essential principle as simply as possible, assume that an economy's productive power consists of numerous equally good units, say acres, of land, and numerous equally good units of just one

other agent of production. Call the other agent labor, and say that one unit means one laborer. Now, we can illustrate the determination of the marginal product of land in either of two ways. First, we can do it by indicating the results of combining various quantities of land with the whole quantity of labor. In this case, the rent of each acre is the marginal product of land, and the wages of each laborer are equal to

$$\frac{(\text{total product}) - (\text{total marginal product of land})}{\text{number of laborers}}$$

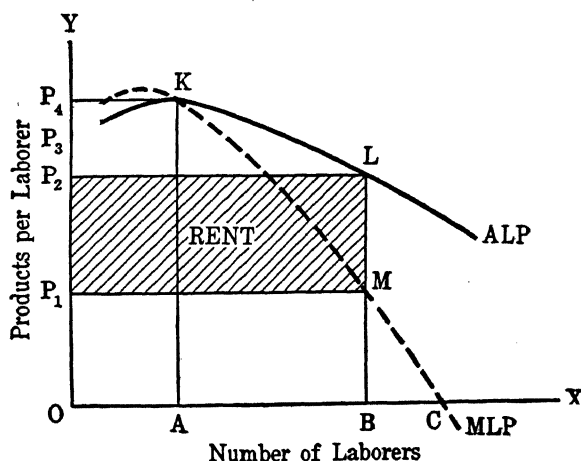
Second, we can do it by indicating the results of combining various quantities of labor with the whole quantity of land. In this case, the wages of each laborer consist in the marginal product of labor, and the rent of each acre is equal to

$$\frac{(\text{total product}) - (\text{total marginal product of labor})}{\text{number of acres}}$$

The second of these methods of illustration will be used, because it is the one most commonly encountered in textbooks dealing with the subject.

The situation is simply illustrated by the following graph. The number of laborers is measured along the horizontal axis OX , increasing in the direction of X . Average and marginal products per laborer are measured along the vertical axis OY , decreasing in the direction of O .

Rent on One Grade of Land

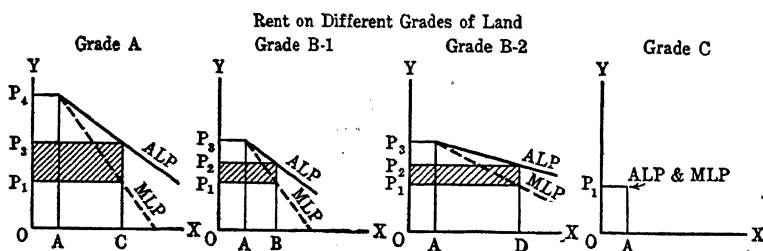


The number of laborers bringing the utilization of the whole quantity of land to the point of diminishing returns is OA . Beyond this point, successive increases in the number of laborers cause both the average

product of labor (indicated by the solid line ALP) and the marginal product of labor (indicated by the dotted line MLP) to decline, the marginal product the more rapidly of the two. The actual number of laborers combined with the land is OB . This makes the average product of labor OP_2 and the marginal product of labor OP_1 . Economic wages per laborer, or the product properly attributable to each laborer, are OP_1 ; and total wages are indicated by the rectangle OP_1MB . Total economic rent is equal to total product (OP_2LB) less total *marginal* product of labor (OP_1MB). Rent per acre is total rent divided by the number of acres. The total rent is indicated by the shaded area P_1P_2LM . As a whole, the graph indicates that the rent of a given grade of land increases with increasing intensity of utilization by other agents of production. If the number of laborers were OA , the rent would be zero, and the whole of the product OP_4KA would be economic wages.

RENT ON DIFFERENT GRADES OF LAND

The cause of rent is the same for different grades of land as it is for any given grade of land. The rent of one unit (say one acre) of each grade is simply the marginal product of the entire quantity of this grade. Likewise the relative rents per acre of different grades are the relative marginal products per acre of the different grades. To illustrate, assume that a number of equally good laborers are to utilize four acres of land, no two acres of which are equally good. The graph gives us a convenient picture of the situation.



The total quantity of labor is spread over the four grades of land in such a way that the marginal product of labor is equal OP_1 —on all four. Any other disposition of the labor would be wasteful. For simplicity, we assume that OA laborers bring the utilization of land to the point of diminishing returns in all four cases. The total number of laborers is OC (used on Grade A) plus OB (used on Grade B-1) plus OD (used on Grade B-2) plus OA (used on Grade C). In each case except that of Grade C the average product of labor is indicated by the

solid line ALP and the marginal product of labor by the dotted line MLP . In the case of Grade C, just enough labor is used to bring the utilization of the land to the point of diminishing returns, and therefore the average product and the marginal product of labor are the same— OP_1 . Wages per laborer are OP_1 in all four cases. Total rent in all cases is equal to the total product less the total *marginal* product of labor. In the present illustration, per acre rent is the same thing as total rent, since we have just one acre of each grade of land. Rents are indicated by the shaded rectangles.

THE MEANING OF "GRADE"

From the foregoing illustration it will be seen that "a relatively high grade" of land is simply land which yields a relatively high rent. The test of quality is rent. It is not intensity of utilization. In actual cases, the rent test and the intensity test would frequently fail to yield the same result. Thus, in our graph, Grade B-2 is the most intensively utilized by labor—has the most labor applied to it, and yet Grade A is the best land because it yields the most rent. Different kinds of land respond differently to increasing applications of labor, fertilizer, and other agents of production. Grade B-2 is utilized more intensively than Grade A because returns diminish more slowly, and it yields a lower rent, in spite of its more intensive utilization, because returns begin at a lower level. On Grades B-1 and B-2, returns begin at the same level, but B-2 has the higher rent because of more slowly diminishing returns.

"EXTENSIVE" AND "INTENSIVE" MARGINS

Reference to the illustration will help to clarify the meaning of "extensive margin of cultivation" and "intensive margin of cultivation," terms widely employed by economists in discussing rent. In the graph, Grade C land lies at the "extensive" margin of cultivation. The idea is that cultivation is extended to less and less productive land until it reaches land where there is no rent—land where cultivation just repays the costs of using other agents of production. However, there are also "intensive" margins of cultivation. That is, each grade is cultivated just intensively enough—has just enough labor applied to it—to make the marginal product of labor the same on all grades. The intensive margin is reached with the application of OC laborers on A, OB laborers on B-1, OD laborers on B-2, and OA laborers on C. Or the intensive margin can be described in a slightly different way. To illustrate, take Grade A land. Here one laborer out of OC laborers yields no rent: the product of one laborer is all wages. We can think of this in terms of time sequence.

Thus, if we first apply one laborer, then a second laborer, and so on, until we reach OC laborers, the last laborer yields no rent—works at the intensive margin. In practice, of course, the laborers are applied simultaneously. And, since the laborers are interchangeable, the accurate statement of the proposition would be that $1/OC$ of the labor force works at the intensive margin.

RENT AND DIFFERENT PRODUCTS

As we saw in Chapter XIII, the prices which the producers of different commodities have to pay for the use of productive agents are “opportunity costs” of production. Thus, producers of various products compete for the opportunity to use land. The tendency is to distribute the total amount of any given type of land among different fields of production in such a way that the rate of rent, stated in terms of money’s worth of output, is the same in all fields of production. In other words, the tendency is to shift land to fields where it will produce the most, yield the highest rent, and to keep doing this until the rent is equalized over the field as a whole. As far as this tendency is concerned, the main facts to be observed by the beginner in economics are these: it does not work perfectly, but it does work.

The tendency works imperfectly in two respects. First, it works more or less slowly. Suppose a farmer is using a certain plot for oats when it would yield more rent if put to broomcorn. The information may not be readily accessible to him, or he may be rather impervious to it; and inertia of one description or another will probably delay his reaction even when he becomes convinced of the facts. Second, the number of products comprised by the “field as a whole” is likely to be limited for any particular land. To take extreme cases, one does not shift given land from hay production to gold mining or from wheat growing to the extraction of iron ore. In short, given land is not equally well adapted to the production of all commodities, and it may be adapted to the production of only a very few. There are physical limitations on the uses of land. Nevertheless, the tendency toward equilibrium is important. Changes in the comparative values of different products do much to overcome physical limitations. For example, the relatively high rents yielded by alfalfa caused a great deal of land to be shifted to this crop. The competition of various products for the use of land is almost everywhere modified, but almost nowhere obviated, by comparative physical adaptation. In farming districts there is competition between wheat, corn, cotton, clover, barley, rye, oats, and so on. In cities, there is competition between hardware, drygoods, restaurants, and so on. The rent of land

in any particular use is generally determined by the competition of numerous uses.

RENT IS A COST OF PRODUCTION

Rent acts as an opportunity cost in the sense that the use of land in producing any one thing tends to *cost* what the use of the land is *worth* in producing other things. This fact is most easily recognized where producers pay rent to landowners other than themselves. The necessity of paying the rent limits the producers of any particular commodity to using only about so much of the available land as will yield a product as great as the rent which must be paid. Suppose farmers in general tried to use half our total land for hay. Of course the huge output would drive the price so low that hay farmers could not afford to pay the rent set by the general competition for the use of land. To the producers of any given commodity, rent is a cost. It is a factor which limits the supply, and therefore determines the price, of the given commodity.²

The conclusion that rent is a cost holds also where producers use their own land. Producers who use their own land to produce one thing when the land would yield a more valuable product if it were producing something else simply lose the additional amount which they might get by producing something else. Doubtless producers are sometimes less careful in using land of their own than they would be in using land for which they had to pay rent. Again, the pride of ownership may recompense a man for holding land in uses which, in the strictly economic sense, are relatively unproductive. Nevertheless, the carelessness and the pride are paid for. In any particular opportunity the use of land costs what it is worth in the best opportunity available. This is as true of land used by its owners as it is of land used by tenants.

The Payment of Rent

The necessity of paying rent serves to economize the use of land. If, to illustrate, a certain city site will yield a product of \$100,000 a year,

² A confusion on this point is perhaps common enough to warrant a footnote. The argument is sometimes advanced that rent is not a cost, *since* the cost of any given commodity is determined at the extensive and intensive margins of cultivation where there is no rent. But at the margins where there is no rent there is also no production ascribable to land. From the fact that rent is not a cost where land produces nothing it does not follow that rent is no cost where land does produce something—that is, within the no-rent margins. Within these margins rent is a cost of any particular commodity because it serves to limit the output of the particular commodity. A variant of this argument first points out that average cost of production is no higher on high-rent land than on no-rent land, and then draws from this fact the false conclusion that rent has nothing to do with the cost of production. The error can be seen by considering the two grades of land one at a time. The rent on the high-rent land limits the amount of high-rent land which can be used to produce any particular commodity. Also the rent on the low-rent land limits the amount of low-rent land which can be used to produce any particular commodity.

the necessity of paying \$100,000 a year for the site powerfully discourages the use of the site for any purpose which will not yield a product as large as the payment. At the same time, the site would be likely to lie idle if it were necessary to pay more than \$100,000 a year for its use. Thus the payment of rent regulates the relative outputs of different products because it acts as a cost of producing any particular product.

THE ECONOMIC OBJECTIVE

Rent payments (exclusive of other items, such as outlays for depreciation and taxes, which are commonly included in *contractual* rent) should be as nearly equal as possible to the *economic* rent of the land for the use of which they are made. In so far as they are not equal to the economic rent, land tends to be wastefully used, that is, improperly allocated to various uses, because the cost of using it is unequal to what the use is worth. A few examples of uneconomical rent payments will serve to make the point clear.

UNECONOMICAL RENT PAYMENTS

Rent payments may be out of line with economic rent—the marginal productivity of land—for either of two general reasons: first, because of the relations which exist between landowners and their tenants; second, because of the relations which exist between landowners and the general public.

Landowners collect from their tenants sometimes less and sometimes more than the economic rent of their land. In cases of cyclical or chronic depression, it is not uncommon for the landowners to get too little. Competition breaks down on the demand side and goes to excessive lengths on the supply side. Tenants have the whiphand over landlords. Even though the economic rent is low, tenants pay less than the economic rent. Contractual rent does not fully cover taxes and depreciation. For example, granting that the widespread sympathy with the plight of southern sharecroppers is generally appropriate, the fact remains that many a landowner in the South is exploited by his tenants. To take an opposite case, the contractual rents paid by Irish tenants to absentee English landlords used to be generally too high. They exceeded the sum total of economic rent and such items as taxes and depreciation, and the difference came out of what should have been the reward of labor. Tenants who improved land were likely to be charged more rent for their pains. Many of them not only refrained from making improvements but also let the farms deteriorate. Where this did not happen the system was nevertheless bad for production because the landlords, receiving more

than their land really produced, were encouraged to carry farming too far. Some land was farmed which should not have been farmed at all; other land was farmed too intensively by underpaid labor; and, in general, the "rack-rented" farms were using much man power which should have been doing something else. This evil system has now been largely corrected by means of long-term leases and more careful scrutiny of rental contracts by public authorities.

Sometimes the relations between landowners and the general public are such that the economic rent of certain land is misrepresented. That is, the land is so used as to confer benefits on the public, or inflict damages on the public, and the owner is unable to collect for the benefits or is not required to pay for the damages, as the case may be. By building good residences and living decently within them, people not infrequently raise the value of adjoining real estate, but mostly for the benefit of those who own the real estate in question. Some redistribution of tax burdens would be appropriate in cases of this sort. The opposite situation sometimes arises where urban land is overcrowded with buildings. Thus, a high building jammed close to other structures may yield its owners an income out of proportion to the value of its use to the city. Such is the case if its owners do not have to recompense owners of adjoining property for the damage done by shutting off light, fresh air, and freedom of movement. Zoning requirements, maximum height limitations, or regulations calling for setbacks as offsets to height, are widely used to cope with this problem. If nothing else sufficed, the authorities would be justified in using discriminatory taxes to discourage congestion.

To repeat: Payments made for the use of land should be equal to what the use of land is worth. But it does not follow that such payments should always go to individuals as their private income. On the contrary, the private receipt of rent sometimes aggravates inequality in the personal distribution of the national income without conferring an offsetting benefit by increasing the size of this income.

The Private Receipt of Rent

One of the most interesting phases of American history is the gradual disappearance of free land, and, with it, the disappearance of economic freedom for the working classes. Side by side with this is the mounting rent of city land. A city's business increases with the growth of business and population about it. Its land is utilized with increasing intensity by crowding more buildings and the things that go with them on a given area, and by pushing buildings to greater and greater heights. Rents swell with the crowds and rise with the skyscrapers.

UNEARNED INCREMENT

In many cases land in general, and urban land in particular, is so located that its owner enjoys an "unearned increment" as the result of a growth of population and business. Location is a matter mainly of two things: natural setting, and the way in which large numbers of people use the setting. Rent increases as *society* uses well-located land more and more intensively. The value of the land rises accordingly. The individual owner has little to do with such an increment of value. Suppose he has speculated successfully. He has not performed a socially useful service in this way, since the increment would still be there whether he had speculated on it or not. Or say that the owner risked a loss, and that on the whole people lose as much as they gain by taking a chance on land values. This is no telling reason for paying him. We do not say that bets won on horse races are earned income, or that some gamblers ought to be compensated for the losses of others. The private receipt of increments of rent gives rise to unearned private income. At the present time, unearned increment on farm land is not an important public issue. Forces largely beyond the control of farmers have been decreasing agricultural rents in general, not increasing them. But the continual increase of urban land rents gives rise to unearned incomes as long as private individuals are permitted to pocket the increments.

UNECONOMICAL USE

Besides permitting unearned income, the private ownership of land is partially responsible for a waste of natural resources. It is true that the men who made fortunes in land, timber and oil in America deserved no great blame for doing so. In general, they played the game according to the existing rules. But, as it turned out, the rules were faulty. By assuming the ownership of natural resources, and by taking rentals or royalties for their use, the government could have prevented much wasteful exploitation. Keeping city lots out of use because the owners were waiting to pocket a value created by somebody else could have been circumvented, too. But it was not done.

The "founding fathers" never answered precisely to the description now rendered of them every fourth day of July and during the autumn of every fourth year. Neither they nor their successors for generations foresaw the end of cheap land or the results of private exploitation. Opportunities seemed unlimited, and speed was the thing. They retained and safeguarded private ownership where it existed. They were well-to-do private owners themselves. Their successors alienated public resources to

private ownership. They had the speed. We inherited the speed, and something else as well. Along with the "glorious American heritage" of amazing development we have another heritage of waste and injustice. Resources are still exploited with recklessness for the future, and big incomes from land are still handed down by fathers who earn little of them to children who earn none of them. It never should have been so, but so it was. Leaving to the arts of make-believe, therefore, the attractive task of perfecting our ancestors, our present problem is to correct what actually happened.

PROPOSAL: THE "SINGLE TAX"

Henry George proposed that taxation be used to transfer all economic rent from private individuals to the state. Like other economic reformers, he believed that his plan would improve both the size and the personal distribution of the national income. On the side of distribution, the private receipt of unearned increment would be ended. Poverty was to be ended, too, since the private receipt of rent was supposed to be the main cause of the low income of the average man. On the side of production, several advantages were claimed for the plan. The public revenue raised by taking all rent would be so great that only this "single tax" would be needed, and thus industry would be relieved from burdensome taxes. Land would be used economically, because people would compete for the opportunity to use it, and they would have to make it produce as much as the rent payments determined by competition. But further, and perhaps most important, much land would be forced into use because its owners, being obliged to pay the equivalent of the economic rent on equally good land which was in actual use, could no longer afford to hold their land idle for speculation.

Henry George well knew how land speculation had helped to make "Wall Street" a term of opprobrium in the West. A leading purpose of our homestead laws, which dated back as far as 1785, was that of providing settlers with farms at very low cost. However, Eastern speculators frequently defeated this purpose by employing dummies to buy up large tracts from the government, with the object, not of farming, but of holding the land for resale to settlers at more than the government price. After 1820 frontiersmen tried to secure a pre-emption law which would permit settlers to establish claims in advance of government sale and then buy at the government price when the sale was conducted. When Eastern opposition prevented this arrangement, the Westerners made a "law" of their own. It was designed to protect "squatters' rights," that is, the rights of men who had staked out and improved claims to buy in the

land at the minimum price even though somebody else might like to offer more. The settlers would station at a sale an armed "captain," who, when the auctioneer came to a squatter's claim, would announce "Settled!" This meant not only that the land was settled but that the whole matter was settled. Land speculation was unpopular.

Progress and Poverty rendered a service in emphasizing that the private receipt of rent is not necessary merely because the payment of rent performs a useful function. In some other respects, its doctrine was defective. Improvements in the arts of production have benefited other income receivers besides landlords. It is doubtful that a single tax on land rent would yield enough revenue to meet all public expenses. Nor is it necessary for the state to appropriate the whole of economic rent in order to do away with unearned increment. Suppose increases in land values accrued to past owners who did not earn them. This does not necessarily warrant taking rent away from present owners. It depends on how the present owners got the land. If they bought it, they should not be deprived of it without fair compensation. If they got it by inheritance, it should be treated substantially the same as other inherited property.

PROPOSAL: GRADUAL SOCIALIZATION OF RENT

The prevention of unearned increment might be combined with the gradual socialization of rent. The latter part of the combination would be an application of inheritance taxation to land. Numerous administrative details would have to be worked out. Improvements and sites would need to be assessed separately, thus making allowance for earned increases of income. (At present, real-estate taxation penalizes improvements by failing to distinguish properly between improvement values and site values.) The speculative element in present values would need to be taken into account. The tax on vacant lots, and on plots not being used to advantage, should be made such as to encourage economical use of the land. The rental value of land used by owners would need to be figured. Assuming such problems to be capable of satisfactory solution, the state might proceed somewhat in the fashion suggested by the following case.

J. Jones I has a lot which he bought at a price including some unearned increment to the seller. During his life, Jones is left unmolested in what he paid for, but the state takes by taxation any further unearned increment arising in that time. On his death, the tax on the rent is increased. The increased taxation decreases the capitalized value of the land to J. Jones II, the heir, who is given a corresponding credit on his inheritance tax. The taxes on rent are made to conform with inheritance

taxation in general. Suppose it is decided that successive transfers of all property shall be taxed progressively, the tax taking all the remaining income from the original property on the third transfer. Then J. Jones III inherits still less rent, because the tax on rent is still further increased when he gets the lot. And all J. Jones IV has left, when he gets it, is the right to occupy and use it. Meanwhile, the state has taxed away the unearned increment arising during the lives of Jones II and III, just as it did in the case of Jones I. Beginning with Jones IV, the problem of unearned increment is solved by the fact that the state takes all the rent.

As far as the public capture of private property rights in land is concerned, the general problem is to ascertain, for each type of land and for each use of land, which rights should be private and which ones public for purposes of the general welfare. There is no single rule which is equally appropriate to all types and to all uses. Take as an example land which is used for residences. Perhaps private individuals should have the right to select the residents and even to take the rent but not the right to determine what types of residences should be built and how they should be maintained. On the other hand, probably the use of land well adapted to parks should be determined by public authorities, as it commonly is. About one-fourth of American city land is now publicly owned. The case for far-reaching public rights is apparently strongest for such "wasting assets" as timber and minerals. The tendency for private owners to hold land out of use for speculative purposes is not as a rule very strong. It is discouraged by the interest cost of holding the land and also by the practice of basing land taxes on capital value. No doubt the social waste occasioned by using land too little or not at all is more than matched by the social waste caused by investing too much capital in the use of land.

PROBLEMS

1. "From one point of view, the prices paid for the use of productive agents are costs; from another point of view, they are private income."

(a) Explain why this is true under our existing system of private property rights.

(b) Indicate how, by a change in the status of private property, these prices might continue to be costs to entrepreneurs while they ceased to be sources of private income.

2. Discuss outstanding differences between: (a) economic rent and mining royalties; (b) economic rent and contractual rent; (c) economic rent and economic interest; (d) economic rent and economic wages.

3. Mr. A says: "Rent comes into existence on good land because pro-

ducers begin to utilize inferior land." Mr. B says: "Producers begin to utilize inferior land because rent comes into existence on good land."

Which of these positions seems to you the more nearly correct? Explain.

4. Using a graph for purposes of illustration, show that land rent could exist in an economy even though there were only one grade of land, and indicate how this rent would be determined.

5. Assume, for simplicity's sake, that an economy's productive power consists wholly of equally good laborers and three grades of land.

(a) Explain how rent is determined on the three grades of land. Is it necessary to suppose that the worst of the three grades of land yields no rent? Explain.

(b) What is meant by the "extensive" and "intensive" margins of cultivation? There is never any rent at the intensive margin, but there may be rent at the extensive margin. Explain.

(c) The best land is not necessarily that which is most intensively utilized by labor. Explain.

6. "As far as any particular product is concerned, rent is a cost in the same sense that wages are a cost." Explain.

7. "As every practical man knows, cost of production is no higher on high-rent land than it is on low-rent land. Indeed it is no higher on high-rent land than it is on land which yields no rent at all. This is enough to prove that rent has nothing to do with the cost of producing any given commodity."

Do you agree? Explain carefully.

8. "For the purpose of securing the most economical use of land, the rent paid by entrepreneurs should be as nearly equal as possible to the true economic rent of land."

(a) Explain carefully.

(b) Explain how the relations existing between landowners and their tenants may give rise to a violation of this principle.

(c) Explain how the relations existing between landowners and the general public may give rise to a violation of this principle.

9. Discuss the nature of "unearned increment." Does unearned increment on land differ in any essential respect from unearned increment on such physical agents of production as, say, houses, docks, and dress suits? Explain.

10. The leading legal rights which collectively comprise "private property" are the rights of the individual to use exclusively and receive income from use, to lease, to give, to sell, and to bequeath. In the case of certain types or uses of land, the public authority (national, state, or local) restricts these rights by exercising the power of eminent domain (power to take property for public use by giving fair compensation), the police power (the power of state governments to restrict rights of private property, in the public interest, without compensation), and the taxing power. In order to get an idea of the character of the problem, consider the advisability of limiting private property rights in the following cases:

(a) Land used for single-family houses occupied by the owners;

(b) Land used for apartment houses in which living quarters are leased to tenants;

- (c) Land needed for the construction of military roads or airfields;
- (d) Land used for factories making, say, glue or explosives;
- (e) Land adapted to the construction of large hydroelectric plants;
- (f) Land containing valuable timber or minerals.
- (g) Urban land whose value will be increased rapidly by the growth of defense industries.

REFERENCES

See references at close of Chapter XXIII.

XXIII

INTEREST

Not long ago, I am told, a party were discussing great inventions and asking each other which was the greatest. They thought of fire and the alphabet and the decimal system, and what not, and then an American farmer came out with—"The man who invented interest was no slouch."¹

AS A SAMPLE of the supposed capacity of interest to yield something for nothing, we have the historic plan of a French philanthropist, Ricard, to enrich France and England by investing a modest sum at compound interest.² A bequest of 500 livres was to be divided into five parts. One part was to be invested for one century, a second for two centuries, and so on. Even the one-century part was to grow to 130 times its original size, and was to be spent on prizes for essays defending the private receipt of interest. As for the five-century investment, it was going to swell to such dimensions that it would retire the national debts of France and England, buy up useless offices, support all the children of France to the age of three, and a few things like that. Meanwhile, other parts would have endowed arts and virtuous acts, provided banks and museums, and built 100 cities each accommodating 150,000 inhabitants.

Of the belief that interest oppresses the poor, the classic illustration is the doctrine of the medieval church. To the church fathers, interest was "usury," or charging for the use of money. Since money was held to be unproductive, usury was considered unjust, and particularly so in the case of loans at high rates to the needy. As commerce and industry grew, however, the doctrine that the lender was getting away with some-

¹ Edwin Cannan, *An Economist's Protest* (1927), p. 285.

² See F. W. Hirst's discussion of sinking funds in his *Political Economy of War* in which he reviews a number of interesting cases. Benjamin Franklin made two £1,000 bequests which were to enrich Boston and Philadelphia. A Scotsman, Hamilton, derided the miracles of compound interest by pointing out that a British penny compounded at 5 per cent from the time of Christ to 1771 would have reached a sum greater than 500,000,000 earths all made of solid gold—if nothing went wrong. The catch probably will be detected by the student who understands why he cannot get rich by compounding bets on football pools.

thing became a serious impediment to business, and for that reason a distinction came to be drawn between loans for consumption and loans for production. The latter, being justified on the ground that they were productive, acquired respectability, and were gradually taken over by the Christians.

The Meaning of Interest

The everyday meaning of interest is *explicit interest*, or contractual interest, signifying a rate of payment made for the use of loanable funds. The rate is expressed as a percentum of the sum which is loaned. Suppose that *A* pays *B* \$400 a year for the use of \$10,000. The payment is explicit interest at the rate of 4 per cent a year. Next assume that *A* invests the \$10,000 in a warehouse, the use of which nets him \$400 a year, after deducting all outlays necessary for repairs and depreciation. There are two ways of looking at the net income from the warehouse. Regarded as so much per physical unit of a capital good, as \$400 per warehouse, it is an economic rent. But regarded as a percentage of the money investment, as 4 per cent of \$10,000, it is *implicit interest*. Thus the source of explicit interest is the rent of physical agents of production; or, stating a rent as a percentum of the value of the physical agent which yields it, the source of explicit interest is implicit interest.

Nevertheless, as further study of our illustration will show, there is an important practical difference between explicit interest and a rent. By lending *B* is able to convert his \$10,000 into a flow of income without undertaking the managerial labor or assuming the entrepreneurial risk which would fall on him if he bought a warehouse and either operated it himself or leased it out to somebody else. In practice, he is given more legal protection than he would have if he were an entrepreneur. He is also given more protection than he would receive as a landlord. As a landlord he would have to put his savings—the surplus of his income over his expenditures on immediately consumable goods—in one or a very few *specific* rent-bearers, or capital goods. As a lender, on the other hand, his savings typically go into a much wider range of rent-bearers. Even if he invests the whole \$10,000 in the bonds of one corporation, the corporation, in turn, puts the money into a variety of agents of production. If his money is invested by an investment institution, such as an insurance company or a savings bank or an investment trust, the variety of investment is still greater. Thus the modern lender lends for investment in rent-bearers *in general*. He lends money funds, or the generalized power to purchase rent-bearers, because he prefers that somebody else assume the labor and risk burden attached to specific rent-bearers, and

the borrower borrows because he is willing to assume this burden. In this way contractual interest serves to bring about a specialization of function. It differentiates the activity of saving from both the activity of choosing investments for savings and the activity of operating rent-bearers in which savings are invested.

It is not to be understood, of course, that this specialization is complete or perfect. In many cases, savers undertake to place and collect loans for themselves. In such cases, part of the contractual payments made by borrowers are remuneration for the labor and risk of lenders. Of course this difference between contractual "interest" and pure economic interest exists, too, where investment institutions make and collect the loans. Again, savers normally expend some labor in investigating the investment institutions which in their turn investigate final borrowers. In a perfect market, where everybody could foresee just what would happen in the future, explicit interest, if it existed at all, would be equal to implicit interest.³ Further, since the rate of return on investment would have to be the same in all fields, there would be a single rate of interest. In practice, of course, contractual interest differs more or less from pure economic interest in each particular field, and also the rate of pure interest differs from one field to another. None the less, contractual interest is closely related to pure interest, and pure interest is always tending toward a common level in all fields. For this reason a discussion of the determination of interest may well begin with the tentative assumption that there is a general rate of interest.

The Determination of Interest

At any given time, two general uses of current money income are open to us. On the one hand, we may use it for immediate consumption. On the other, we may convert it into a flow of future income. Actually, we avail ourselves of both uses. Part of the income which we receive during a given period we spend for consumption, and the remainder we exchange for a flow of future income by saving it and having it invested in capital goods, rent-bearers, which yield net marginal products. But in order to translate this process into terms of the "supply and demand" which determine interest, we should first consider certain fundamental features of saving and investment.

³ Under these conditions, explicit interest would not be necessary, and the habit of stating incomes in terms of interest might not exist. If a "perfect" market is construed so broadly as to mean a market from which all managerial labor, as well as all risk, is absent, the saver might as well buy *specific* rent-bearers.

NATURE OF INVESTMENT

The capital goods in which savings are invested are *productive*. A case illustrating how productive they can be when extremely scarce is related by Edwin Cannan.⁴ The traveller Fraser, while he was in northeastern Asia, once found a household in the most desperate grief. Inquiring whether somebody had died, he received the contemptuous reply: "What is *death*? We have *lost the needle*!" No extended observation of the modern world is required to convince us that capital goods yield rents, or net marginal products. If they did not, we should not go to the expense of increasing our supply of them. Everything which we consume we have more abundantly because of physical agents which have to be maintained and replaced. Some things, such as automobiles and radios and airplanes, we could not have at all without using tools and machines in whose production still other tools and machines have been employed. Indeed, it is difficult to conceive of any form of product which we could have without the assistance of capital instruments of some kind. Durable consumption goods, such as dwelling houses and their furnishings, yield rents in the form of consumable services; but the rents overshadowing others in importance are those which are yielded by such production goods as machinery, buildings, and stocks of raw materials.

As their amounts increase, capital goods, including land of many kinds, cannot cease to yield economic products unless the commodities produced by capital goods and labor together cease to have economic value. The reason is that these two types of productive instrument can be more or less freely substituted for each other. Consequently neither is likely to reach the stage of zero productivity unless both do, and this cannot happen unless all products become free goods. Further, the decline in the marginal productivity of capital goods tends to be small in comparison with increases in the amounts of such goods. Things would be different if capital goods were one single kind of thing which utilized another single kind of thing called labor. But in practice there are many kinds of capital goods, not to mention many kinds of labor, and some kinds utilize other kinds. Thus automatic stokers co-operate with locomotives, locomotives with cars, cars with mechanical loaders, riveting and welding machines with apparatus for making steel plate, and so on indefinitely. In the long run an increase in the amount of capital goods means more or less parallel increases in the amounts of co-operating capital goods, so that the decline of marginal productivity is arrested.

⁴ *An Economist's Protest*, cited above.

In addition to being productive, investment is essentially *permanent*. This follows from the fact that the rents of capital goods are net marginal products, surpluses over the requirements of maintenance and replacement. Except possibly during such emergencies as war and depression, we at least maintain our stock of productive agents, and on an average of good years and bad we increase it by producing more than we consume. As time goes on, some types of physical agents are replaced by others; but investment as a whole is permanent. It follows that the income yielded by investment is *perpetual* income. This must be remembered when we deal with the motives for saving.

THE NATURE OF SAVING

A society which is merely maintaining its capital equipment is only conserving what it has already saved. It is consuming as fast as it is producing, and it is not saving. If it is to save, there must be an average excess of production over consumption among the individuals who compose it. To a whole economy, saving is not merely *deferring* certain consumption: it is *permanently abstaining* from certain consumption. To a particular person who is saving up a principal with the object of consuming it later, saving is *waiting* for consumption. For example, a man saves for a vacation, saves to send his boy to college, saves for his old age. He saves at one time in order to "dissave," that is, spend the savings, at another. He shifts a certain amount of consumption from one time period to another. But if this were the only motive for saving, it is clear that a whole economy would save little if anything, since during any given period the savings of some individuals would be offset by the dissavings of others. What a society actually saves represents permanent abstinence from consumption, in the sense that the principal which is saved is never spent for consumption.

Saving is essentially an exchange of present consumption for a perpetual flow of income. Those who do the actual saving, who are responsible for additions to society's stock of capital goods, exchange the opportunity to buy immediately consumable goods for the opportunity to determine the disposal over perpetual income. Thus an inquiry into the motives for saving is essentially an inquiry into the motives for seeking perpetual income, or the motives which prompt men to accumulate capital which they leave behind them when they die. In conducting such an inquiry, attention should be centered on the persons whose decisions are, in actual practice, mainly responsible for an economy's saving.

SAVERS AND THEIR "MOTIVES"

Especially prominent among those whose decisions determine the amount of saving are the wealthy in general, corporation officials, public officials, and bankers. The saving is called "voluntary" when they decide to save from their own current incomes and "involuntary" when they decide to save from the current incomes of somebody else. Voluntary saving comes mostly from persons enjoying incomes far above the general average. In 1929, according to the report of the Brookings Institution on *America's Capacity to Consume*, the richest 10 per cent of our families did 86 per cent of the nation's total saving. While families getting \$1,000 to \$1,500 in this year saved only 1 per cent of their income, those receiving \$10,000 to \$20,000 saved 36 per cent, and those receiving \$1,000,000 or more saved 66 per cent. Corporation officials cause involuntary saving by reinvesting company income of which a part, if the stockholders had their way, would be disbursed as dividends and spent largely for immediate consumption. Government officials do much the same thing by investing large amounts of public funds in roads, buildings, reclamation projects. In times of rapid credit expansion, rising prices force the majority of us to limit consumption because most of the additional credit extended by bankers goes first to a limited number of business men before it reaches us.

Why do such decision-makers elect to exchange present consumption—their own or somebody else's—for income most of which goes to later generations? In detail, the answer would be as complicated as the annals of human knowledge and ignorance. In general, where the explanation is not sheer habit, the "reasons" might be subsumed under the related desires for personal prestige and social power, whatever form these desires may take, and however noble or ignoble they may be in individual cases. At any rate, saving is essentially an exchange of present consumption for a perpetual flow of income.

The nature of saving warrants a general inference concerning the terms on which various amounts will be saved in a given length of time. Any individual, whatever his present income and tastes, is likely to find perpetual income progressively less desirable, and present consumption progressively more desirable, the farther the sacrifice of the latter for the former is carried. Further, individuals differ in their willingness and ability to save. Thus it is a reasonable inference that the amount saved by society per unit of time tends to vary directly as the rate of return on savings.

"SUPPLY AND DEMAND"

To repeat, present consumption is exchanged for perpetual income. The ratio of exchange between the two is the *interest rate*. It remains to describe the determination of this exchange ratio, this "price," in terms of supply and demand. In any price situation there is a commodity, a supply schedule, and a demand schedule. In the interest situation, present consumption is exchanged for perpetual income by a two-sided process of saving (refraining from consumption) and investing (converting savings into capital goods which yield perpetual income). It remains to identify the commodity, the supply, and the demand. Since savings are being exchanged for capital goods, and capital goods for savings, the nature of the commodity, the supply, and the demand depends on the point of view which we take. Suppose we take the point of view of savers who seek investments. Then the commodity is the use of capital goods, the demand comes from current saving, and the supply comes from current investment opportunities.⁵ Suppose, on the other hand, we take the point of view of investors who seek savings. Then the commodity is the use of current savings, the demand comes from current investment opportunities, and the supply comes from current saving.

The latter of these two points of view is taken in the discussion which follows. Thus we are dealing with the supply, the demand, and the price of *current savings*. For purposes of illustration, let us interpret "current" as "weekly." Then the supply schedule shows how much savings would be supplied per week at different interest rates, and the demand schedule shows how much savings would be demanded per week at different interest rates. This does not mean that we begin by assuming the interest rate, which is the thing to be explained. Instead, it means that we first base supply and demand schedules on reasonable inferences concerning the nature of current saving and investment, and then indicate how the two schedules between them determine the current interest rate. For the present, we are concerned with the nature of current demand and supply.

On the supply side it is, as we have seen, a reasonable inference that the quantity of saving per week varies directly with the price, that is, the interest rate, which is obtainable for the use of savings. To illustrate, the supply schedule is such that a given quantity—perhaps zero, perhaps more than that—would be saved at zero interest, or more at one-half of 1 per cent, or still more at 1 per cent, and so on.

⁵ In this view, the problem of explaining the interest rate is the problem of explaining "capital value," or the valuation of capital goods.

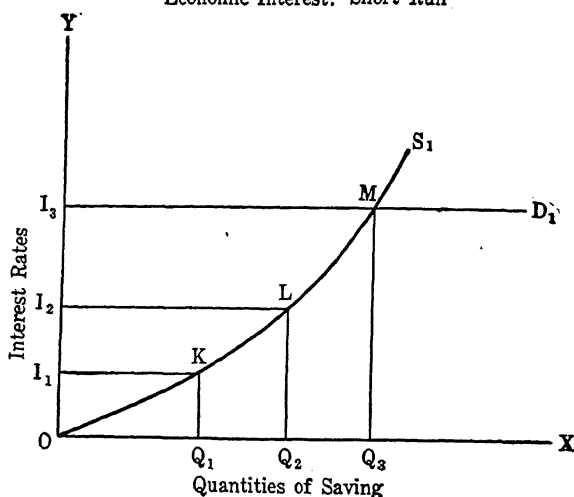
On the demand side, it is a reasonable inference that investors will pay for the use of any given quantity of weekly saving the rate of interest which this quantity of saving will produce *when it is added, by investment, to the whole existing stock of capital goods*. In other words, the demand for a unit of saving—say a dollar a week—tends to be equal to the marginal productivity of the whole stock of capital goods. Now, since investment is *permanent*, this stock has been accumulating for a long time. Therefore it is so large, in comparison with anything which can conceivably be added to it by the investment of weekly savings, that its marginal productivity cannot be affected appreciably by variations in the quantity of weekly savings. Even the difference between investing 1 per cent of all weekly income and investing 100 per cent of it would not make much difference in the marginal productivity of *all* capital goods *in one week*. It is thus substantially correct to describe as follows the demand schedule for weekly saving: At an interest rate equal to the marginal productivity of all capital as it stands at the beginning of the week, investors stand ready to take any and all quantities of saving, from zero per cent to 100 per cent of all weekly income. The demand schedule is almost absolutely elastic.

Our next task is to apply this interpretation of supply and demand to the determination of the rate of economic interest over time periods of different lengths. It is to be understood that the discussion relates to an economy in which capital is being increased because saving and investment are taking place.

RATE OF ECONOMIC INTEREST AT A GIVEN TIME

We begin with the conditions existing in a short period of time. To illustrate, the period is one week. The following graph represents the situation. Quantities of savings per week are measured along the horizontal axis, OX , increasing in the direction of X ; and interest rates are measured along the vertical axis, OY , increasing in the direction of Y . The supply schedule is OS_1 . Thus OQ_1 quantity would be saved at an interest rate of I_1 , or OQ_2 quantity at an interest rate of I_2 . The demand schedule is I_3D_1 . This indicates that investors stand ready to pay an interest rate of I_3 per cent for all possible quantities of savings per week. The demand schedule is a horizontal line because no addition which can possibly be made to the total of accumulated capital in a week can appreciably lower the marginal productivity of this capital. The quantity of saving is determined by the interest rate, which in its turn is determined by the marginal productivity of the total accumulation of capital. This is the situation at any given time.

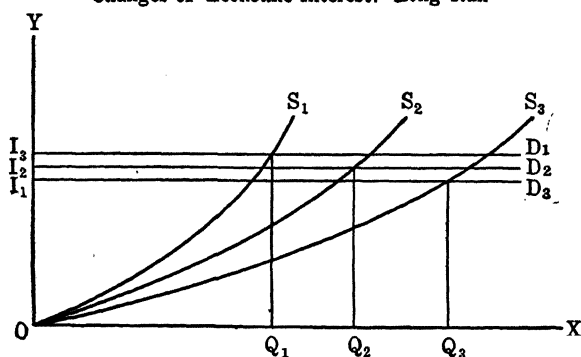
Economic Interest: "Short Run"



CHANGES IN THE RATE OF ECONOMIC INTEREST

Yet supply and demand undergo gradual changes which become appreciable in the long run. Take a much longer period of time, say ten years. Assume, for the time being, that population and the arts of production are stable. When we come to the last week of the period, the

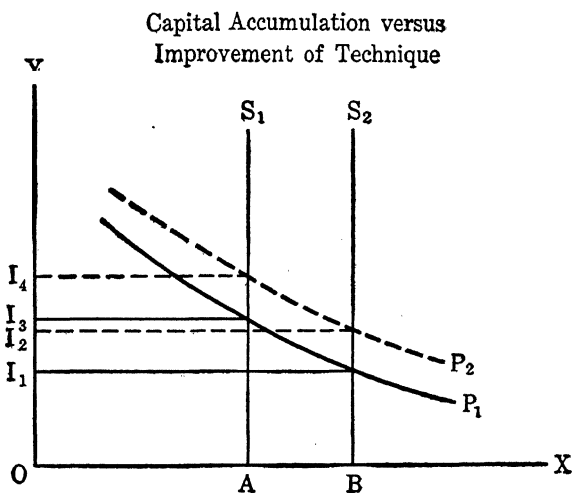
Changes of Economic Interest: "Long Run"



accumulation of productive capital in the preceding 519 weeks has had two noticeable effects which are illustrated in the graph above. It has made saving easier, so that the supply schedule of weekly saving slopes upward more gradually than it did in the first week. This accumulation has also caused a substantial decrease in the marginal productivity of the

total stock of capital, so that the demand schedule lies at a lower level than during the first week. In the graph, we begin with the supply schedule, OS_1 , and the demand schedule, I_3D_1 , of a given week. The marginal productivity of the existing stock of capital is OI_3 , making the interest rate OI_3 , and the weekly quantity of savings supplied at this interest rate is OQ_1 . Ten years of capital accumulation make the demand and supply schedules of the week I_2D_2 and OS_2 , respectively. Still another ten years of accumulation make these schedules I_1D_3 and OS_3 , respectively.

It has been assumed that population and productive technique are stable, and, therefore, that the behavior of the interest rate depends entirely on the accumulation of capital. In such long periods, however, this rate is affected also by increases of population and improvements in the arts of production, particularly the latter. These changes affect the interest rate in the opposite way from that in which it is affected by the accumulation of capital. Taken by itself, accumulation would decrease the marginal productivity of capital by filling up first the most productive investment opportunity, then the next most productive, and so on. Taken by itself, an increase of population or an improvement of technique would increase the marginal productivity of a given stock of capital



by opening up more productive investment opportunities. Taken together, accumulation and the changes in question seem to result in a rather stable rate of interest.

In the graph, to illustrate, an accumulation increasing the stock of capital from OA to OB would decrease the marginal productivity of

capital from OI_3 to OI_1 if stable conditions of population and technique left the marginal productivity schedule P_1 in operation. On the other hand, changes of population and technique raising the marginal productivity schedule from P_1 to P_2 would increase marginal productivity from OI_3 to OI_4 if the stock of capital remained OA . Taken together, accumulation and changes of technique and population change marginal productivity from OI_3 to OI_2 . The rate on the consolidated bonds of the British government, if it can be taken as a close approximation to economic interest, generally varied within the comparatively narrow range of 3 to $3\frac{1}{2}$ per cent from 1875 to the First World War. But this brings us to differences between economic interest—"pure" interest—and rates on money loans.

ECONOMIC INTEREST AND LOAN RATES

There are numerous markets for loans, and their relations with one another are complicated. Loan rates differ greatly as to type, and any given type displays variation from time to time and from place to place. Rates are generally much higher in the relatively unorganized markets, such as the market for small personal loans, than in the more organized markets, such as the markets for bank loans, farm mortgages, and bonds. Within each of these broad types of market, too, there is much variety. In a single city, Dallas, Texas, it was estimated a few years ago that yearly rates on small personal loans ranged from 120 to 1,131 per cent.⁶ Bank rates in general run higher than rates on farm mortgages, and much higher than rates on good bonds. Bank rates differ as between long-term and short-term loans; and rates on call loans are sometimes much higher and sometimes much lower than rediscount rates. In fact, the variety of loans is so great as almost to defy description.

The variation of loan rates over time is traceable largely to fluctuations of business. Here are felt the influences of war, of business cycles, of the closing of investment opportunities by the accumulation of capital, of the opening up of such opportunities by technical advances and the growth of population and wants. The causes of the variety of rates on different types at a given time are broadly reducible to three. First, and especially in the case of small personal loans, there is frequently a strong element of monopoly on the lender's side. Second, the administrative expenses of placing and collecting loans differ from one type of loan to another. In this respect bank loans are more expensive than bonds, and small loans more expensive than large ones. Third, uncertainty concerning payment of interest and principal varies from loan to loan. Thus

⁶ W. F. Foster, *Loan Sharks and Their Victims*, 1940.

rates are high in frontier or "backward" regions, where lenders typically find that information about borrowers and investment opportunities is both expensive and unreliable. Uncertainty runs high also for new types of loans in settled communities. Sometimes these factors work in the same direction. For example, in permitting a rate as high as $3\frac{1}{2}$ per cent a month, our Uniform Small Loans Act allows for the fact that small loans are risky as well as expensive. Sometimes the factors work in opposition. As a rule long-term loans are less expensive than short-term but also more uncertain.

Changes in the general level of prices commonly create discrepancies between loan rates and pure interest. The reason is that these changes cannot be predicted perfectly. To illustrate, say that a business man borrows for one year and invests in goods which, owing to a rise of prices, he will sell a year later at 10 per cent more than he paid for them. Assume that, during a period of stable prices, such a loan would command 5 per cent. What will our business man pay? If nobody expects the rise of prices, he will pay 5 per cent. Taking the 10 per cent increase in the value of his goods into account, he will, for practical purposes, be paid about 5 per cent for borrowing. But if the rise of prices is predicted perfectly, lenders will demand and borrowers will offer correspondingly more for loans, so that the rate paid by our borrower will be about 15 per cent for the year. If at the end of the year no further change of prices is predicted for the next year, the loan rate will cease to be influenced by expected price changes and will return to 5 per cent on the type of loan assumed above.⁷ But in practice people predict without predicting perfectly, and the outcome depends on the general character of their mistakes. In general, they are slow to readjust their calculations to changes in the buying power of money, even when these changes are already in progress, and for this reason loan rates respond sluggishly to such changes.

Consequences of Interest

When their political parties were still young, the Bolsheviks and Nazis both proposed, like numerous radicals before them, to "abolish interest." Since the time of their coming into power, the Bolsheviks have undertaken to act on their proposal. In their economy interest is paid, in the sense that it is counted as a cost of production, but the state is the main recipient because it is the chief seller. Thus, although some

⁷ Of course the effects of perfect prediction would depend on the time period of loans and the price changes predicted for this period. Thus the expectation that the price level will rise 10 per cent next year and then remain stable for the next 19 years will not raise the loan rate much for 20-year loans.

interest on government obligations is paid directly to individuals, the payment of interest is in general divorced from the private receipt of interest.

It will be remembered that our earlier discussion of the determination of interest related mainly to pure interest, to a general rate of interest expressing, in percentum terms, the marginal productivity of capital used in the field of production as a whole. But an economy dominated by private initiative does not have a system of accounts which embrace production as a whole, and its most definite expression of the productivity of capital is found in the rates of interest which are explicitly paid by borrowers to lenders. In this sense the payment of interest serves as a pecuniary calculus which provides us with information.

THE PAYMENT OF INTEREST

As a pecuniary calculus, explicit interest performs two related functions. First, since it signifies a charge for the use of capital, it indicates how savings should be apportioned among different available opportunities for investment. Second, it indicates the comparative importance of present consumption and future income, because it expresses the ratio of exchange between them. In other words, explicit interest more or less truthfully tells us two things: how a given amount of capital should be divided among different fields of production, and how much of our limited resources we should use to create capital instead of creating immediately consumable goods. In both respects, explicit interest (after allowance is made for costs which are not due to interest) should be as nearly equal as possible to pure interest, or the rate at which capital in general produces.

To illustrate, assume that these two rates differ. First suppose that the rate on loans is less than the rate of pure interest. In so far as this is true, the payment rate fails to perform the function of warning against investments whose productivity is below the general level. For example, if pure interest is at 4 per cent and loan interest at 3 per cent, new capital which should be made to yield 4 per cent may be so used as to yield only 3 to 4 per cent. To use more technical language, the opportunity cost of using capital in producing particular commodities is underestimated, and wasteful investment is encouraged. Next suppose that the payment rate exceeds the rate of pure interest. Then the opportunity cost of using capital is exaggerated, with the result that investment tends to be kept out of opportunities where it should be placed. At the same time that it misdirects investment, a discrepancy between the two rates misrepresents the desirability of saving and investment in general. If the payment rate

is too low, voluntary saving is discouraged, although investment and involuntary saving are overstimulated, while the situation is reversed if the payment rate exceeds the general productivity of capital. This derangement of saving and investment has been considered at some length in Chapter XXI, which deals with business cycles.

It is clear, however, that rates of payment do more than merely provide us with information telling us, correctly or incorrectly, what it would be economical to do. As payments are not only made but also privately received in our economy, the rates are also measurements of incentive. This leads us to the private receipt of interest.

PRIVATE RECEIPT OF INTEREST

The receipt of income in the form of contractual interest fosters group antagonisms. Lenders find their position resented by both the laboring class and the active business group. By laborers they are not uncommonly regarded as parasites who neither work nor concern themselves with the welfare of workers. To the owners of enterprises, the legal protection extended to long-term loans seems excessive, in view of the fact that the lenders take little direct part in business activities. No doubt the bondholders of corporations need protection against insiders who, controlling companies while owning little or none of their stock, are tempted to grant themselves large salaries, to buy at high prices from other companies in which they are large shareholders, and even to manipulate the stock of the companies which they control. Here might be mentioned the misdeeds of presidents, chairmen of boards of directors, and other captains of industry more or less in the service of Anaconda Copper, Bethlehem Steel, Consolidated Oil, and the St. Paul railway. Yet the bondholders do not seem to need protection much more than the majority of the stockholders do. Nor is it clear that anything is gained by carrying property rights in contractual interest so far that during hard times business management is frequently turned over to bondholders who are not equipped for it and do not want to assume its responsibilities. The problem is complicated by the fact that the private receipt of interest affects not only the personal distribution of income but also the accumulation of capital.

UNEARNED INTEREST

Unearned interest—interest received without work or risk-bearing—may seem to be merely unearned rent stated in terms of a percentum of capital value. Yet the difference in form is of some practical importance. The fact that modern money capital is essentially command over rent—

bearers *in general*, taken in connection with the fact that loans enjoy legal protection which is not extended to the services of laborers and landlords and entrepreneurs, puts the lender in a peculiarly advantageous position to secure income without work or risk. Taking this general feature of contractual interest for granted, we find more specific reasons for unearned interest. Three merit attention.

First, the owners of generalized capital, like the owners of urban land, often receive "unearned increment" because factors beyond their control make their productive power *relatively* scarce. Thus, capital may be made relatively scarce, and its marginal productivity correspondingly high, not merely because of the difficulty of saving but also because of population growth and the introduction of laborsaving inventions.

Second, lenders sometimes enjoy a monopolistic position. The closing pages of Chapter XV pointed out that this is true to some degree in the case of commercial banks. It is notoriously true in the market for small personal loans. Here rates of 100 to over 1,000 per cent a year are exacted, not merely from the improvident and the indiscreet, but also from workers reduced to desperation by sickness and unemployment. The loan sharks use ingenious means of securing borrowers. Foster tells us⁸ that one of them ran a contracting business on the side, held up wage payments, and then loaned his needy employees their own wages at 10 per cent a week, while another served as collector for business firms and sent debtors to his own loan agencies to get the funds to pay. Although in no legal position to attach wages or chattels, the sharks have also effective methods of collecting interest. Thus, they send "bawlers-out," especially women, who have displayed exceptional skill at this art, to inspire borrowers with dread of what their employers or neighbors will think of them.

The business done by these modern Shylocks used to run around \$100,000,000 a year in the United States, but it has been reduced greatly by legislation and improved small-loan agencies. As risk and administrative expense are large for small loans, legislators must be careful not to set maximum rates so low that legitimate lenders will leave the field to sharks. The most important of the improved small-loan agencies are the licensed personal finance companies. An example is seen in the Morris Plan banks, whose average loan is about \$200. The borrower gives the bank his personal note, which, unless he furnishes collateral, must be signed by at least two endorsers. He repays the bank a dollar a week for fifty weeks on each \$50 of principal borrowed. As a rule interest is nominally at the rate of 6 per cent, although really it is over

⁸ *Loan Sharks and Their Victims*, cited above.

twice this high because it is deducted in advance on the original principal and takes no cognizance of the continual reduction of the principal. Including an investigation fee of 2 per cent, also deducted in advance, the cost is about 16 per cent of the loan. Still, sixteen per cent a year⁹ is better than the shark's 10 per cent a month. A borrower is subject to a small fine for delinquency; and the endorsers of a borrower who falls a week behind must make payments for him if they do not get him to catch up. Other institutions, including co-operative credit unions and specialized departments in ordinary banks, lend on the same general plan.

Third, saving requires little effort where personal income is large. The theory that interest is an ethically legitimate reward for abstaining from consumption becomes unimpressive when it is remembered that the chief "abstainers" are the largest consumers. Here the problem is not the high rate of interest but the private possession of large amounts of unearned capital.

INTEREST AND CAPITAL ACCUMULATION

Could unearned interest be diverted to the state, by taxation or otherwise, without seriously hampering the accumulation of capital? Of course accumulation is a slow process, because additions made by saving and investment during any short period cannot be otherwise than very small in comparison with the total stock of capital to which they are added. Thus it is certainly possible to deprive individuals of either earned interest, or unearned, for a *short* period without fear of decreasing the stock of capital substantially. But the consequences of following such a policy for a *long* period depend on the elasticity of the supply of current saving. What complicates the problem is the fact that the pursuit of the policy in question would gradually increase the difficulty of saving. As long as the personal distribution of our national income is highly uneven, it is not unlikely that wealthy savers could be deprived of unearned interest without any very damaging effect on accumulation. To them, a comparatively low interest rate is probably a sufficient inducement to save. But the capture of unearned interest tends to even up distribution. Thus it must tend to reduce saving, and would probably do so in fact unless the proceeds were used in such a way as to effect a marked improvement in the efficiency of the working classes. The gap thus created might not be important. If so, we should either have to close it by extending the scope of government saving and investment or else content ourselves with a much slower accumulation of capital.⁹

⁹ For example, a government might invest the proceeds of taxes, or it might exchange the obligation of perpetual interest payments for compulsory loans.

PROBLEMS

1. "Contractual interest (explicit interest) is based on implicit interest. This amounts to saying that contractual interest is based on the rents, or marginal products, of physical agents of production." Discuss.

2. "As an institution, contractual interest differentiates the function of saving from the function of selecting capital goods (rent-bearers) in which to invest savings, and also from the functions of managing the operation of capital goods and assuming the risks of operation." Discuss.

3. It has been calculated that one cent of American money compounded semiannually at 5 per cent from the time of Christ to 1771 would have accumulated into a sum more valuable than 250,000,000 earths all made of solid gold. In order to discuss this proposition critically, proceed as follows:

(a) Graph and explain a schedule showing the marginal productivity of successive increments of a given amount of capital: the marginal productivity of one dollar's worth, of two dollars' worth, and so on.

(b) What would happen, during the process of accumulating a gigantic stock of capital, to the marginal productivity of capital? And what would the changes in the marginal productivity, in turn, do to the rate of accumulation?

(c) Remembering that a huge sum must be invested in many things at a given time, and that reinvestment must occur many times in order to take full advantage of compound interest, how is the foregoing proposal related to risk?

4. "The constant accumulation of capital will sooner or later reduce economic interest to the rate of zero. In other words, capital will become so plentiful, in relation to other agents of production, that it will cease to yield a marginal product." Discuss.

5. The capital of an economy is accumulated by means of a two-sided process of saving and investment.

(a) Does saving consist in mere "waiting for consumption," that is, refraining from consumption at one time in order to spend the savings for consumption at another time? Explain.

(b) Who, in the main, make the decisions which account for saving in the United States? Explain.

(c) It is a reasonable inference that the quantity of saving supplied per unit of time in an economy varies directly with the rate of return on invested savings. Explain.

(d) Investments made at any given time are added to the enormously larger total of all existing investment. The result is that variations in the quantity of current investment have little effect on the marginal productivity of capital in the short run. Explain.

(e) Draw and explain, first, a graph illustrating the supply and demand of *capital*, and, second, a graph illustrating the supply and demand of *current savings*—for example, the supply of savings and the demand for savings in a given week. What explains the radical difference in the elasticity of demand in the two cases?

6. Assuming conditions of free competition, and using graphs for purposes of illustration, explain:

(a) How the rate of economic interest is determined at a given time or in a given short period of time, such as a week;

(b) How changes in the short-term rate of economic interest are determined over long periods where it is assumed that no changes occur in population and the technique of production;

(c) How changes in the short-term rate of economic interest are determined over long periods where it is assumed that population increases and the technique of production improves.

7. "There is no relationship between the rate of 'pure,' or economic, interest, on the one hand, and rates on actual loans on the other hand." Discuss.

8. In the discussion of interest problems, textbooks commonly devote one main heading to "The Necessity of Interest."

(a) Distinguish between the necessity of paying interest and the necessity of the private receipt of interest.

(b) Defend the payment of interest.

(c) Is the private receipt of interest as justifiable as the private receipt of wages? Explain. As justifiable as the private receipt of rent from urban land? Explain. Should a distinction be drawn between "justifiable" in the ethical sense and "expedient"? Explain.

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XXIV

WAGES

Whether you work by the piece or work by the day,
Decreasing the hours increases the pay.

—Old Doctrine of Organized Labor

Introduction

ALTHOUGH UNSKILLED laborers are roughly identical with the poor, wages in general are far from being the same thing as the personal incomes of the poor. A few examples of the "wages" of "skilled labor" will suffice to illustrate the point. Locomotive engineers and college teachers commonly receive from three thousand to five thousand dollars a year. Two corporation officials drew more than \$200,000 each for serving a holding company in the automobile field in 1934. Over a period of fifteen years another highly skilled laborer averaged better than \$800,000 a year, in salary and bonuses, for serving as president of a corporation engaged in making steel and building ships.

MEANING OF WAGES

Wages may be broadly interpreted as that part of the total economic product of a given period of time which is distributed to human beings in return for personal services. Where the distribution takes the form of payments made by employers to employees, wages are explicit, or contractual. Where it takes the form of remuneration for work which people perform for themselves, wages are implicit. Under conditions of perfectly free competition, actual wages would be equal to "economic wages." That is to say, the wages per unit of any given grade of labor would be equal to the marginal product of this grade of labor. As pointed out earlier, the marginal product of labor *includes* outlays for "maintenance and replacement," that is, outlays which enable workers to maintain themselves and rear families.

PLAN OF DISCUSSION

We have to consider how money wages are determined, and how they are related to both the production and the personal distribution of wealth. As in the chapters on rent and interest, a distinction is drawn between payment for productive services as a cost and the private receipt of such payment as personal income. In order to secure a clear picture of the determination of money wages, we begin by ignoring "frictions" of two general kinds: those which prevent labor from moving freely from field to field, and those which take the form of discrepancies between money wages and the marginal productivity of labor. Then, as the discussion proceeds, these frictions are taken into account. In practice it is not uncommon to find both kinds of friction associated with a common cause. For example, poverty and ignorance of opportunities frequently keep the unskilled laborer from moving to another job while at the same time they prevent him from securing a wage as high as the value of his services to his employer.

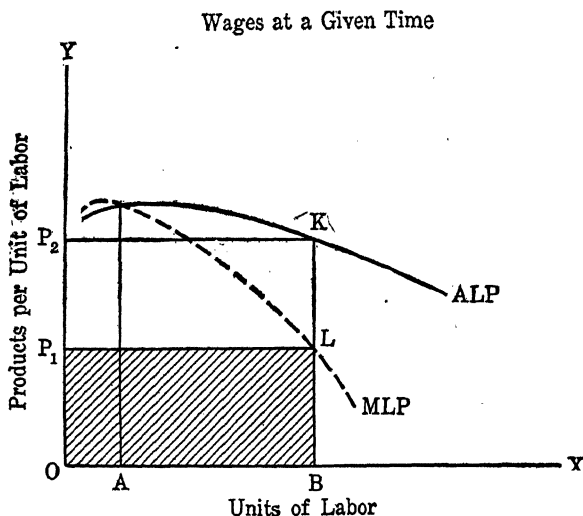
Wages of Mobile Labor

In the present main section we assume that any given type of labor has complete freedom of movement from field to field and that the wage rate depends entirely on the marginal productivity of labor. Complete mobility has the effect that marginal productivity is the same in all fields of employment. The object is to describe, under these conditions, the main determinants of marginal productivity. There are three chief elements in the situation: the quantity of labor, the quantities of other agents of production, and the technique of production.

WAGES AT A GIVEN TIME

At any given time, the quantity of labor, the quantities of other agents, and the technique of production are given. In a short period of time, these elements are not subject to much change. (Or perhaps it would be better to *define* "a short period of time" as a period in which these elements are subject to little variation.) Under the assumed conditions, wages per unit of the type of labor in question are the same thing as the marginal product of the labor, which is utilizing and being utilized by other agents in the stage of diminishing returns. In the following graph, to illustrate, the solid line *ALP* shows the average product of labor, and the dotted line *MLP* shows the marginal product of labor, for various quantities of labor applied to fixed quantities of other agents, under a given technique of production. *OA* units of labor would bring

production to just the point of diminishing returns. We assume the quantity of labor to be OB . Consequently wages per unit of labor are OP_1 , and total wages are indicated by the shaded area OP_1LB . The total product of labor and other agents together is OP_2KB , and hence the total product ascribed to other agents is P_1P_2KL .



Suppose this situation is modified by extending the laboring age to include somewhat older persons, or somewhat younger persons, or both. The result is a comparatively slight increase in the total quantity of labor, with a corresponding decline of the wage rate and a corresponding rise in the rate of return to other agents. The case is different if the quantity of labor is increased, not by enlarging the number of laborers, but by extending the hours of labor. When labor works overtime, other agents, such as land and buildings and machinery, also work overtime, so that the *relative* rates of return tend to remain what they were before overtime was introduced.¹

IMPROVEMENTS IN THE TECHNIQUE OF PRODUCTION

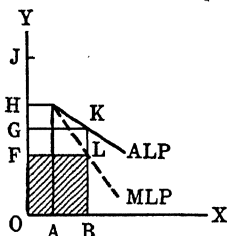
As longer periods of time are brought under consideration, the effects on wages of improvements in the technique of production become important. Of course these improvements raise the *average* product of labor,

¹ What about time and a half for overtime? Employers may pay it without losing money provided *all* the employers, who engage the given type of labor, pay the overtime rate. That is, they may pay it partly out of the *additional* product of other agents. But they cannot do this without explicit loss in a purely *competitive* situation, since in such a situation the explicit costs of using other agents for a given length of time must rise in proportion to the increased productivity of these agents.

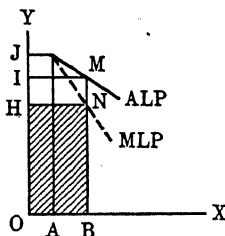
since the average product of labor is simply the total product of all agents divided by the number of units of labor. But no given improvement is likely to affect the *marginal* product of labor in the same way that it affects the marginal products of other agents. This brings us to the distinction commonly made by economists between "labor-saving inventions" and "capital-saving inventions." A labor-saving invention is an invention which tends to decrease the marginal product of labor relatively to the marginal product of capital, and a capital-saving invention is an invention which tends to decrease the marginal product of capital relatively to the marginal product of labor. For example, harvesting machines, glass-blowing machines, automatic loading machines, and the like, are essentially labor-savers, while radio and wireless telegraphy and telephony are great capital-savers because they obviate a great deal of investment in poles, wires, cables, insulators.

The following graph illustrates labor-savers and capital savers. Case A is used as a point of departure for both Case B and Case C. The quantity of labor is the same in all three cases, and so, too, is the quantity of capital to which the labor is applied. In all cases it is assumed, for

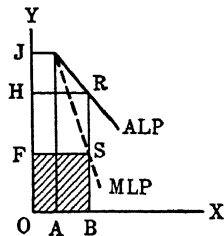
Case A: Given Technique



Case B: Capital-Saver



Case C: Labor-Saver



the sake of simplicity, that OA units of labor utilize the capital at the point of diminishing returns. In all, the average product of labor is indicated by the solid line ALP , and the marginal product of labor by the dotted line MLP . We compare Case B and Case C, in turn, with Case A. Products are "real" products—physical quantities of goods. The invention responsible for Case B raises the marginal product of labor from OF to OH , and increases total wages from $OFLB$ to $OHNB$. But it leaves the total product of capital and the marginal product of capital (total product of capital divided by the number of units of capital) the same as before: $FGKL$ equals $HIMN$. This invention is a "capital saver": it affects the relative returns of capital and labor in the same way as would a relative increase in the quantity of capital. On the other hand, the invention responsible for Case C leaves the marginal and total products

of labor the same as they were in Case A, while it increases the total product of capital from *FGKL* to *FHRS*. Thus the marginal product of capital is much greater in Case C. This is a "labor-saver": it affects the relative returns of capital and labor in the same way as would a relative increase in the quantity of labor. Cases B and C are extreme, since inventions in general tend to increase both real wages and real interest.

So far, we have illustrated *completed* changes caused by inventions. To illustrate what happens *during* the process of change, we must begin with the particular industry into which a given invention is introduced. Quantities of product are now stated in terms of money value. Say, then, that in the production of radio sets there is introduced a machine which greatly increases the production of the capital and labor employed in the industry. What happens in the industry depends mainly on the character of the machine and the elasticity of the demand for radios. For purposes of illustration, it will suffice to deal with the case of a labor-saving machine.

Suppose that the demand for radios has an elasticity of unity. Then the decline of the price, caused by the decrease of average cost, will be exactly offset by the increase of sales, and the total amount of money spent on radios will be the same as before. In that case, since the machine is a labor-saver, the marginal product of labor in this industry will be below the general level, and labor will flow out into other industries until the discrepancy is corrected. Suppose that the demand for radios is elastic, more money than before being spent on radios. Capital will certainly flow into the industry. As far as the distribution of labor among industries is concerned, however, the elasticity of demand and the labor-saving characteristic of the invention will work against each other, and the outcome will depend on their relative strength. Thus, if the elasticity of demand is the stronger influence, the marginal product of labor in the radio industry will be above the general level until an inflow of labor wipes out the difference. Similar reasoning is applicable to the case of inelastic demand. When the redistribution of labor has equalized money wages in all fields, the general level of money wages will be lower than before. It is possible, but not probable, that real wages also will be lower. Probably real wages will be higher, owing to the decrease in the cost of a commodity widely used by laborers.²

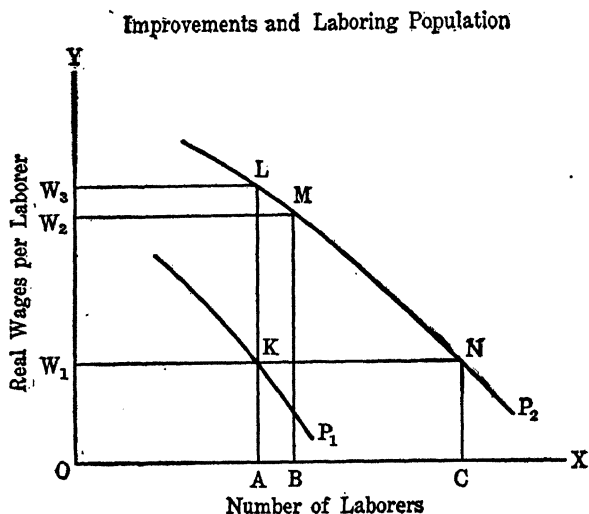
² Although this section deals with the wages of *mobile* labor, attention may be called to the fact that many of the laborers who are laid off by an industry where an improvement is introduced do not move easily and quickly into others. Thus the money which consumers stop spending for one industry's product, because the cost is reduced and the demand inelastic, does not *automatically* create a demand for other products and provide employment in other industries. Much of it is likely to be saved without being invested until the laborers released from one industry are re-employed by others. Of course this takes time. Such is the problem of "technological unemployment."

CHANGES IN THE LABORING POPULATION

Several factors combine to determine the size of the laboring population. One factor is the change in the total population. The United States and the countries of northern and western Europe are approaching a condition of stable population such as has persisted in France for some decades. Partly because of a rapid decline of the birth rate since 1918, the proportion of the population within the reproductive ages of roughly 20 to 50 years is now higher than it will be in another generation. This points to a decline of the birth rate, which will tend to increase the average age of the population and thus cause a rise of the death rate. The size of the laboring population is affected also by the distribution of the total population among different age groups. Thus, the proportion of the total too old to work is likely to rise in the near future. A third factor is the ratio of women to men. This ratio is abnormally high after a major war. A fourth factor is the shift, such as the one which is in progress now, of women from the home to industry. In the short run, such a shift tends to increase the number of workers, while in the long run it tends to decrease this number by reducing the birth rate.

However, in order to connect such data with wage changes, it is necessary to distinguish between increases of the laboring population which occur independently of improvements in the arts of production and increases which are caused by these improvements. (For simplicity, let us use the term "improvements" broadly enough to include not only inventions and discoveries but also the opening up of new land, the development of trade, and the increase of capital.) Without the improvements, the population increase would reduce the marginal product of labor. Without the population increase, the improvements would increase this product. The two influences work in opposition. For more than a century, the improvements have proved much the stronger influence: real wages have about quadrupled in spite of an enormous increase in the laboring population.

Thus the effect on the laboring population of improvements which raise real wages, long a subject of debate, has been ascertained by actual history. The following graph roughly illustrates what has happened. Under a given technique (including a given quantity of land and other agents, and a given development of commerce), the marginal productivity of labor is indicated by the curve P_1 . The laboring population is OA , making the rate of real wages OW_1 . Next an improvement raises the marginal productivity curve to P_2 . Real wages rise temporarily to OW_3 . Assuming that a wage of OW_1 would just suffice to keep the



laboring population stable at the number OA , what happens next? If the "iron" or "brazen" law of wages prevailed, laborers would rapidly increase their numbers to OC , thus causing wages to fall back to OW_1 . If the laborers, determined to maintain the higher standard of living provided by wages of OW_3 , kept their numbers down to OA , wages would remain at OW_3 . In practice, laborers use part of their additional wages to increase their numbers, but they use most of these wages to maintain a higher standard of living. In terms of the graph, they increase their numbers only to OB , thus causing wages to fall only to OW_2 .

"Noncompeting Groups"

Thus far we have assumed that labor has complete freedom of movement and that money wages express quite accurately the marginal productivity of labor. Beginning with the present main section, however, we deal with "frictions" which cause labor immobility and discrepancies between marginal productivity and money wages.

A very important case of labor immobility is seen in the rough general division of laborers into different income classes, or so-called "non-competing groups." Wages are persistently much lower on monotonous and backbreaking jobs than they are in apparently more pleasant tasks like running locomotives or corporations. We seem to have the paradox of people shunning agreeable employments and seeking the disagreeable.

It is true that dull or physically hard work is not the only thing which can make an occupation unattractive. People also dislike thinking, taking responsibility, submitting themselves to specialized training which requires much time and seems to involve great uncertainty. But this is far from being the whole story.

STATUS OF LOW-PAID LABOR

The low-paid are in no position to compete with the high-paid for jobs. The trouble is that poverty begets poverty. One may smile at the discovery of Mither Dooley that the poor people, who need the money the most, are the very ones who haven't got it. But the humor ends when it is remembered that the children of the poor can do little to change the situation. There is some movement, of course, out of the overcrowded occupations. Some young men and women, favored by character and luck, make good their escape. Some parents, with literally heroic sacrifice of themselves, succeed in rescuing their children. But this is not the rule. Generally the children remain where their parents were, feeling fortunate enough if they can avoid sinking even lower. Handicapped by parents unable to fire them with ambition, lacking money for superior training, abandoning school early to work toward the family support, they go ahead in hopeless jobs, marry early, and bring into the world still other children whose prospect is the same rut.

Thus there persists a sort of caste system among laborers. At the bottom are unskilled laborers—railway section hands, miners' helpers, doffers in textile mills, and the like—who have only brawn to sell. Next there are slightly skilled workers, examples being ordinary tinkers and garage helpers, factory machine tenders, clerks, stenographers. Next are the skilled, such as engravers, toolmakers, building craftsmen, school-teachers, secretaries. Higher still are the expert engineers, architects, business executives, middlemen, professional people. At the top of the pyramid are a few who do not even compete with one another, let alone with persons of other groups. Each is "in a class by himself." Here we find the Fritz Kreisler, the Katherine Cornell, the C. M. Schwab.

To be sure, the classification is more or less arbitrary. Some clerks get more than some middlemen, some contractors more than some architects, and so on. But the classes themselves are more distinct than the names applied to them may suggest. It is persistent differences of income which count, and these differences are out of all proportion to differences of native capacity. In the higher reaches people sometimes receive income in excess of their marginal productivity, and frequently their high marginal productivity is not attributable to their personal efforts.

STATUS OF WOMEN

In general, women are comparatively immobile from occupation to occupation. Typically, they receive less than men for equally effective work. That is to say, the difference between men's and women's wages is more than enough to make up for the inferior physical strength and endurance of women and for the fact that women, anticipating that marriage will remove them from industry, are inclined to take jobs which require little training and yield low pay. The occupations open to women are more limited. Women are also weaker in bargaining power. Regarding their jobs as impermanent, they are not readily organized into unions, and such unions as they have commonly lack aggressiveness in negotiating with employers.

To take another case of noncompeting groups, lack of opportunity to move from one part of the country to another sometimes prevents workers in one region from competing freely with workers in substantially the same occupations in other regions. It is partly for this reason that wages in the cotton textile industry, in the building trades, and in other employments have been chronically lower in our southeastern states than in our northeastern and middlewestern states.

Labor Policies of Employers

Both the incentive to work and the distribution of labor among different employments are influenced by certain labor policies of employers. Some of these policies are considered under a later section dealing with collective bargaining. Meanwhile, forms of wage payment and methods of hiring labor deserve some attention.

FORMS OF WAGE PAYMENT

There are three leading forms of wage payment. *Piece rates*, or payment per unit of output, may be used in so far as units of output and the quality of work are clearly distinguishable. A second form is that of *time rates*, or payment per unit of time, such as an hour, a day, or a week. Third, there is the *bonus system*, which combines certain features of time rates and piece rates. There are two essential elements in the system. One element is the standard on which the bonus is based, and the other is the bonus itself. The standard consists of a given number of pieces and a given piece rate for a given time period, say an eight-hour day. For pieces in excess of the standard number, a bonus is paid, but the rate is typically below the standard piece rate.

The piece rate offers two economic advantages. First, it provides an

incentive to work efficiently. But this advantage will be nullified if laborers are impelled to work so hard that cumulative fatigue lowers their effectiveness. Or it will be lost if laborers come to believe, rightly or wrongly, that increasing the number of pieces leads the employer to decrease the piece rate unfairly—to “nibble” at the rate, as unionized laborers say. A reduction of the rate is both fair and economically desirable where it merely establishes a rough conformity between wages in a given shop or industry and the wages of equally good workers in other shops or industries. But it is unfair and undesirable wherever it drives wages below the general level for the grade of labor which is concerned. The second advantage of the piece rate is less obvious but important. It tends to establish a close conformity between productivity and pay. In this way it helps to make the principle of opportunity cost work—to make the amount of labor used in any particular employment depend on the value of equally good units of labor in other employments.

The time rate, although the character of the work may make its use unavoidable, is weak where the piece rate is strong. It offers little incentive to the individual worker, who cannot appreciably raise the wages of his group, and hence his own wages, by increasing his own output. It also obscures the relation between pay and productivity, and for this reason it interferes with economical apportionment of labor among different employments. These shortcomings may be partially remedied, however, by personnel relations which make it clear to the individual laborer that the general character of his work comes to the attention of the management and has a bearing on his tenure, rank, and pay.

The bonus system is of doubtful value. Where the bonus piece rate is below the standard piece rate, workers are inclined to liken the employer to the man who bought his wife a washing machine out of her savings and let her keep half of what she earned with it. If anything, the bonus rate should be above the standard rate, since increases of output decrease overhead cost per unit. In general, the straight piece rate can be and should be used wherever it is feasible to use the bonus system.

METHODS OF RELEASING AND HIRING WORKERS

As there is always more or less unemployment, the productivity of labor is affected by the methods which employers use in releasing and hiring workers. Simply discharging men, the most common policy when business is slack, causes the men who are let out to lose their skill and to become demoralized. This might be avoided by retaining the whole force and putting each man on short time, either shortening the operat-

ing period of the shop or rotating employment among different parts of the force.

The chances that unemployed men will seek and find new jobs depend on the methods of engaging workers. To illustrate, let us use unemployed steel workers as our point of departure. Suppose, first, that the typical steel employer exhibits a strong preference for his former employees but does not arrange these employees in an order of preference, a priorities list. Then unemployed steel workers are encouraged to wait for jobs with their former employers and are discouraged from seeking positions with other firms or industries. Re-employment is retarded. Suppose, next, that the steel employer not only prefers his former employees but also establishes a priorities list for them. Then the men who stand high on the list will be discouraged from seeking new positions while those who stand low will be encouraged to seek them. But of course the chances of the men who do seek new positions will be affected by the employment policies of employers in other fields. Suppose, finally, that the steel employer puts all applicants for jobs on an equal footing, as far as their former places of employment are concerned. In that case unemployed steel workers will be discouraged from waiting for openings with their former employers, and their chances of finding other positions will be good in so far as employers in other fields follow a similar policy in hiring men.

Collective Bargaining

Wages are likely to be depressed wherever an employer possesses monopoly power in the purchase of labor. To illustrate, assume that the laborers of a given locality can work for only a single employer in that locality (a local employers' association embracing all the local employers has the same effect), that it is very difficult for them to move to other localities, that they have no union, and that there is no public regulation of wages. Even though he does not have monopoly power in the sale of his product, our employer can push wages below the marginal productivity of the labor. He can do it by creating the fact or the fear of unemployment. As for the fact of unemployment, begin by supposing that the employer is producing at minimum average cost by using all the laborers, and that he is paying the prevailing rate of wages for the type of labor which he is using. By discharging some of his men, thus intensifying the competition for jobs, he can depress wages. The unemployed men will accept wages below their marginal productivity in preference to no wages at all. The employer will play the men off against one another. He can afford to discharge men until the advantage of

reducing wages if offset by the disadvantage of raising average cost of production and reducing the volume of sales. Probably a few discharges now and then will suffice to terrify the men into accepting wages well below the value of their services. The employer, if he has monopoly power also in the sale of his product, can afford to carry this procedure farther, since in that case reduction of output will raise the price of the product.

We have assumed, however, that the laborers bargain individually with the employer. Now let us consider the consequences of their bargaining collectively.

"NONECONOMIC" COLLECTIVE BARGAINING

What especially complicates the "economics" of collective bargaining is the fact that such bargaining is always more or less noneconomic. The more class consciousness develops, the less do capital and labor seek their mere economic interests, and the more concerned do they become with sheer victory and the prestige that goes with it. In reality, each side commonly makes heavy economic sacrifices in order to beat down and dominate the other. For the time being, however, and until we come to the subject of industrial peace, we shall have to use economic interests as our point of departure, at least for the purpose of asking how much economic sacrifice each side is likely to impose on the other.

THE LIMITS OF COLLECTIVE BARGAINING

In the "short run," meaning a time period too short to permit substantial movement of productive agents from field to field, collective bargaining can influence wages within wide limits. To illustrate, consider the possibilities of bargaining between one employer and 1,000 laborers of a given type. If the employer has much power to hold out and the laborers have little, the laborers may accept for a short time any wage above zero rather than lose all their income. If the situation is reversed, the employer may pay the workers not only their marginal product but also most of his own implicit wages and rent and interest rather than lose all his income. But wages set at either of these extremes could not be expected to last long. Unless class consciousness is assumed to breed a war of extermination, both sides will get at least enough to subsist. The limits of bargaining will be further narrowed by the fact that both sides will possess some bargaining power. Thus neither will accept without a fight anything closely approaching a mere subsistence income, and each will modify its terms because it stands to lose by trying to force

wages to the level at which the other will employ a strike or a lockout. Yet in the short run this still makes possible a wage which is, depending on the distribution of power, either considerably above or considerably below the marginal productivity of labor. But what is likely to be the outcome in the long run?

COLLECTIVE BARGAINING AT ITS BEST

The main hope for collective bargaining lies in the possibility that it will come to conform with the general outlines of the following sketch. The representative of the employer sits down at the conference table with the representative of certain organized laborers to formulate a wage agreement. Assisted by adequate facilities for research each has a fairly accurate estimate of the marginal productivity of the labor. Each knows that the other has such an estimate, and each is aware that the other knows this. There is also mutual knowledge of the fact that each side can inflict great economic damage on the other, and that it will probably do so if the other tries to overreach it. Besides, the two sides are fellow countrymen who are bent, not on total war, but on lasting economic advantage and reasonably cordial relations.

Under these circumstances the bargainers will agree on wages which closely approximate the marginal productivity of labor. Assuming that collective bargaining conforms with this pattern throughout the economy, wage rates themselves will tend to apportion labor economically among various fields. Opportunity cost will function smoothly for the further reason that unions will assist their members to go where the best wages can be obtained. Employers who mismanage, try to exploit labor, or attempt to remain in overexpanded fields, will find the going too hard for them, and national output will benefit accordingly. Helped by their unions to improve their general education and technical training, workers will raise their personal efficiency, to the advantage of everybody.

This is collective bargaining at its best. Its relation to real collective bargaining depends in part on the practices of the employers and laborers who bargain. The organized machinery of bargaining in the United States was described in Chapter V. We turn now to certain practices of organized labor. Workers have the legal right to bargain collectively through representatives of their own choosing, and the National Labor Relations Act, imperfect though its structure and execution may be, goes far to make their right substantial. The present question is how they bargain.

LABOR PRACTICES

Although not typical, extortionate practices on the part of labor leaders have long been widespread enough to be important, more especially in the building trades. Blackmailing methods are used, the leader threatening an employer, or workers, or both, with a stoppage of work unless certain demands are met. In Chicago, "Umbrella" Mike Boyle—so called because of his alleged habit of collecting bribes in an umbrella hung from the bars of saloons where he negotiated with his victims—apparently extorted a comfortable fortune from employers and employees before he retired in the 1920's. Similar feats were performed in and around New York City by Sam Parks and his natural successor, Robert P. Brindell, who was sentenced to a long term in Sing Sing. Labor racketeering, although it does not burgeon as in the 1920's, is far from being extinct today. To illustrate, in 1940 certain employees complained to the Department of Justice that they were deprived of work unless they enrolled in a local union whose initiation fee was \$500. At this time the annual income of one local union leader was estimated at \$170,000. The more general results of racketeering are unearned income for crooks, increased costs of production, intensified unemployment, and prolonged depression.

Organized craftsmen commonly try to protect or extend the demand for their services by insisting on their exclusive right to perform certain types of work. Thus one craft is drawn into a "jurisdictional" or "demarkation" dispute with another or others. Struggles between European craft guilds were sometimes bitter in medieval times. For example, the goose-roasters once won a fifty-year battle with the poulterers over the right to sell cooked game; whereupon the organized cooks, flushed with a recent victory over the vinegarers-mustarders, did another half-century of battle with the goose-roasters and finally defeated them. Similar warfare rages between organized crafts today. The right to saw a board or bore a hole in a bathroom floor may be contested by carpenters and plumbers. The fitting of stone may precipitate a combat between stoneworkers and granite cutters. If metal laths are to be laid, the organizations of the carpenters, the metal workers, and the metal lathers may each insist on exclusive jurisdiction. The installation of an elevator is capable of starting a dispute involving half a dozen unions. The right to drive concrete mixers is disputed by teamsters and operating engineers; the right to repair brewing equipment, by millwrights and carpenters. In 1938, certain artists who had come all the way from South America to

paint murals for their country's exhibit at New York's World Fair were declared by a local union of painters to be ordinary nonunion painters. Finally they were permitted to work on the condition that each should be accompanied on the job by a union painter who, although idle, drew full pay in the daytime and time-and-a-half at night. The craft form of organization lends itself to this sort of thing. When jurisdiction is in doubt there is a wasteful struggle, and when it is established an excessive number of laborers is frequently used to do a given amount of work. Cost is increased, labor mobility reduced, unemployment aggravated, and national income impaired.

Various practices or policies tending to limit output are common, although they are not confined to organized labor. Opportunities to enter skilled trades are restricted by high union initiation fees and membership dues, and also by limitations on the number of apprentices. Since wages are certainly related to labor productivity, a *general* limitation of hours is open to question. Thus, maximum output per week may be closely approximated by limiting hours to forty where intense effort and concentration are required but not where the tendency to cumulative fatigue is less pronounced. Occupational differences certainly cast a long shadow of doubt over the advisability of such a low general maximum as the thirty-hour week long advocated by certain American labor leaders.

Although deliberate restriction of output has been repudiated by the American Federation of Labor, local unions still slow down work on the job and resist the introduction of improved machinery and methods. Restriction of this sort used to go to absurd lengths. Plumbers and steamfitters, who were paid for time spent in going to the job, prohibited the use of bicycles. Bricklayers were forbidden to lay brick with both hands. Painters limited the width of brushes. Plasterers required that all the larger casts be made on the job. Printers invoked the "dead horse" rule that an electrotypes be melted down after being used by one newspaper. Until 1910 stonemasons outlawed the planer and refused to work on stone cut by it, while later they demanded that two or three men be used on a planer. Building craftsmen opposed new materials, such as concrete. Today informed laborers widely admit that increases of output raise wages in general in the long run, but the fear of technological unemployment—unemployment caused by the introduction of new techniques of production—still causes much restriction. One of the main objects of our social-security legislation is that of preventing the cost of useful technological changes from falling heavily on particular groups of workers.

INDUSTRIAL PEACE

As struggles between workers and employers are wasteful, and particularly so when they are embittered by class feeling, real wages are affected by the character of the methods by which it is sought to preserve industrial peace.

When disputes are not avoided, the preferable form of settlement is conciliation. A dispute settled in this way has the best chance of staying settled, because workers and employers have patched up their differences between themselves. The chief value of mediation and voluntary arbitration is that they enable the representatives of labor and capital to save their faces. That is, the negotiators can back down gracefully from their bluffs, without exciting the resentment of those whom they represent. Compulsory arbitration does not have this advantage, although it may become necessary as a last resort in industries vitally affecting the public welfare. The best arrangement seems to be a fairly even division of bargaining power, together with a permanent board of conciliation which enjoys the confidence of both sides.

Avoiding a dispute is of course better than settling one. In this respect profit sharing is inferior to the "trade agreement," which is a sort of treaty defining the terms of collective bargaining. Profit sharing probably causes quite as much irritation as it prevents. Once its novelty wears off, workers feel that it is a species of fake philanthropy, and that their profits ought to take the form of higher wages. The trade agreement, on the other hand, has obviated many disputes in a wide range of industries. And yet to point out this fact is rather to indicate the nature of the problem than to present a solution for it. The real problem is to establish a situation, an "atmosphere," in which the trade agreement will be used.

In labor relations, as in international relations, there is a general distinction between "legal" issues, which can be settled by appeal to established principles, and "political" issues, for whose settlement there are no principles which are recognized by both sides. Disputes take on the political character in so far as the common interest in better living conditions for all is set aside by the clash of special group interests. National governments frequently refuse to submit to adjudication or arbitration disputes which raise vital questions of national power and prestige. Similarly, labor disputes are likely to be most serious when they involve, not the interpretation of existing agreements, but the formulation or fundamental change of agreements. In general, the development of a class consciousness which is emotionally akin to militant patriotism causes

labor disputes to lose their economic character and degenerate into struggles over power and prestige. The underlying problems of industrial peace are two: to keep conflicts of interest on the economic level, and to encourage recognition of a common interest in a large output. The atmosphere becomes unfavorable to trade agreements and peace where partisans in general, and conspicuous politicians in particular, appeal to class prejudice. It becomes unfavorable also where the stronger side, typically that of the employers, declines to meet the weaker and more suspicious side at least half way.

The Private Receipt of Wages

Wages resemble rent and interest in being not only sources of private income but also costs of production. From the standpoint of the employees who receive them, they are private income; from the standpoint of the employers who pay them, they are costs. It follows that those who seek effective means of reducing economic inequality must observe a distinction between the payment of wages and the private receipt of wages. Workers deserve sometimes more and sometimes less than their marginal products, because their marginal productivity itself is strongly affected by inequality of opportunity. And yet, as a means of getting labor services used economically, there is a strong case for making wage payments conform closely with labor productivity. Thus the direct alteration of wage payments, for the purpose of changing personal incomes, is a device which should be used with great caution if at all. The point can be illustrated by considering the probable effects of regulating wages, either by collective bargaining or by law.

WAGE REGULATION

A minimum wage is desirable where the effect is merely to raise the actual wage to a level with the productivity of labor. Since it gives employers no inducement to discharge men, it increases the income of workers. Or, where labor is used wastefully because employers can secure it cheaply, a minimum wage may cause a transfer of workers to more productive employments. Where this is the case, the income of the poor and the national income are both increased. But where wages already equal the output of labor, and labor is not wastefully used, it is generally difficult and undesirable to enforce a minimum at a higher level. Employers are disposed to get rid of enough labor to make the remainder worth what it costs. In order to assure themselves of jobs, workers tend to evade the regulations, and employers offer their cheerful co-operation in this task.

Similarly, a maximum wage is desirable where it pushes salary down closer to productivity. Hired executives are often in a strategic position to get more than they are worth. Having a voice in setting their own remuneration, they let their conscience be their guide, and their conscience proves equal to the occasion. In the depression year of 1930, Bethlehem Steel raised the salary of C. M. Schwab, chairman of its board of directors, from \$150,000 to \$250,000, although the 1930 income of the company was about \$19,000,000 less than that of 1929. At the same time, dividend payments being suspended, the company paid a bonus of a million dollars to its president, Eugene Grace. In 1931, when income fell almost to the vanishing point, and in 1932, when there was an enormous deficit, the Schwab salary continued at \$250,000. In the depression year of 1931, Anaconda Copper ruthlessly slashed the salary of Chairman John D. Ryan from \$300,000 to \$277,500, and President G. W. Hill of American Tobacco received some \$16,000 a week as compared with an average of \$14 a week for his employees. In such cases it is probable that a substantial decrease of wages would reduce inequality without hurting production. But it does not follow that a general maximum wage would solve the problem of wages which exceed what their present recipients deserve. Assume a general maximum of, say, \$20,000 a year, which is about the wage of our Chief Justice. The difficulty is that some men are certainly worth more than this as agents of production, even though probably no man has a moral right to receive more in a poor world. For the purpose of securing economical use of productive agents, payments should equal marginal productivity. For the purpose of securing an equitable distribution of income, however, the private receipt of payments at this rate is wrong.

THE PROBLEM OF TRANSFERS

Something can be done, of course, to raise the productivity of labor as a whole, and to even up the productivity of different kinds of labor. Nevertheless such a process must of necessity be limited in its scope and slow in its operation—much too limited and slow to satisfy the requirements of distributive justice in the visible future. Since the ownership of the agents of production and the opportunities to become owners of them are very unevenly distributed, there is little positive correlation between the marginal products of agents and the incomes deserved by their owners. At the same time, it is desirable that payment for the use of productive agents be based on marginal productivity. Thus, in order to secure equitable distribution and efficient production at the same time, it is necessary to drive a wedge between the two parts of the productivity-

ownership principle. It is necessary, while continuing to require payments in accordance with productivity, to effect a transfer of part of the payments from their present recipients to the underprivileged. A transfer of this kind is already in operation on a large scale under our systems of private charity and public finance. The desirability of extending it further will be considered in Chapter XXVIII.

In the next two chapters we examine a service which is not, like the services of land and capital and labor, directly bought and sold in the market. This is the service of the entrepreneur, the risk-bearer. Since it has no market and no price, the principles of its determination differ radically from the principles applicable to rents and interest and wages.

PROBLEMS

1. Discuss the main weaknesses of this statement: "Wages are simply the income of the poor."

2. Discuss the determination of the wages of highly mobile labor:

(a) Where it is assumed that the quantity of labor, the quantity of other productive agents, and the technique of production are all constant;

(b) Where it is assumed that the quantity of labor increases while the quantity of other agents and the technique of production are constant;

(c) Where it is assumed that the technique of production is improved while the quantity of labor and the quantity of other agents are constant;

(d) Where it is assumed that the technique of production improves, and that the quantity of labor and the quantity of other agents increase.

3. Discuss this statement: "There is no point to being subtle about the effect of labor-saving inventions. These inventions take the place of laborers, throw laborers out of jobs, and decrease wages; that is all. Ask anybody who has been displaced by one of them."

4. Is the basis of "noncompeting groups" simply a superfluity of some kinds of labor and a dearth of others? Or do you think that the marginal productivity of ditch diggers would be lower than that of locomotive engineers even if the two groups contained equal numbers? Use a graph to illustrate your reasoning on this subject.

5. Discuss the causes and consequences of "noncompeting groups." Give illustrations of such groups.

6. Discuss the comparative merits of the piece rate, the time rate, and the "bonus system." Does it follow that the form of wage payment possessing the greatest theoretical advantages should be used in all cases? Explain and illustrate.

7. During depression, the commonest method of reducing the quantity of labor per plant, firm, or industry is that of discharging some of the men. Discuss the consequences of this method, and compare with other possible methods.

8. What general method of engaging men seems to you best for purposes of holding unemployment to a minimum? Explain.

9. Explain why the wages of laborers working for an employer who possesses monopoly power in the purchase of labor are likely to be below their marginal productivity.

10. Discuss the possible and probable upper and lower limits of wages under collective bargaining.

11. Suppose you are a propagandist hired by some private or public organization to propagate the idea of the virtues of collective bargaining. Your tenure and pay are assumed to depend on your ability to base your case on economic considerations. Outline your case.

12. Discuss some of the more important shortcomings of collective bargaining in practice.

13. "It is all very well to recommend conciliation as a means of settling labor disputes, and trade agreements as a means of preventing them. But the fundamental problem is to secure employer-labor relations of such a character that trade agreements will be adopted and conciliation used when these agreements fail to prevent disputes."

Discuss this problem carefully.

14. The dual character of the productivity-ownership principle of distribution is an obstacle to equalizing distribution by decreasing some rent, interest, and wage payments and increasing others. Explain. Connect this problem with the first problem in the present list.

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XXV

RISK AND PROFITS: *RISK*

That the future will be like our experience of the past is the sole condition under which we can predict what is about to happen and so guide our conduct.—KARL PEARSON.¹

The Nature of Risk

ECONOMIC PROFITS are commonly described as the reward of successful risk bearing. By the same token, economic losses may be described as the punishment for unsuccessful risk bearing. Both are the products of uncertainty. The owners of business enterprises obligate themselves in advance (or their hired managers obligate them) to meet certain costs on land, capital and labor. But they take chances on the more or less uncertain outcome of their activities. They hope that their products will sell for more than cost; they fear that the products will bring less. A *risk* is essentially the unfavorable side of an uncertainty. In general, an *entrepreneurial risk* is the chance of a loss which cannot be translated into an ordinary cost by means of either the prevention or the prediction of a given occurrence. Loss by fire will serve as an example. In so far as fires can be prevented by fireproof construction, fire-fighting apparatus, and the like, fire loss takes the form of the definite and certain cost of prevention. In so far as unpreventable fires can be predicted, fire loss takes the form of the definite and certain cost of insurance. But under what circumstances are events predictable?

PREDICTION AND INFERENCE

The essence of prediction is *inference*. That is, we predict by inferring the unknown from the known. Of course there is a difference between our "knowledge" of the past and our "knowledge" of the future. As a popular saying has it, "Hindsight is easier than foresight." In a sense, we can *know* something about the present or past, while we can only *believe* something about the future. And yet in practice the distinc-

¹ *The Grammar of Science*. New York: The Macmillan Company, 1892, p. 163.

tion between the two is not nearly so sharp as it may seem. Strictly speaking, to believe is to base a conclusion on inference, while to know is to base a conclusion on the direct experience of our five senses. But in practice we do not interpret knowing and believing so rigidly as this. On the contrary, much of what we construe as knowledge about the present and past is based, not on direct experience, but on inference.

To illustrate. Standing before the blackboard, your teacher picks up from the chalk rack a little white cylinder about a quarter of an inch thick and two inches long. You think you know that it is chalk. But you do not. If the teacher had "planted" there a white piece of wood having the same size and shape, you would take the wood for chalk. What you do is *infer* that the object is chalk. That is, from characteristics which do register on your senses you infer the presence of other characteristics which do not. The size, shape, color, and proximity to the blackboard lead you to believe that you are dealing with chalk. Your belief is justified because you have found these characteristics to be associated with the other characteristics of chalk many times in the past, and this fact has established a *probability* that the object will turn out to be chalk. Nevertheless, your "knowledge" is based largely on inference; your "fact" is largely in the nature of a probability. Our judgment of the past and present, correct or incorrect, is formed *largely* by inferring the unknown from the known, while our judgment of the future must be formed *wholly* in this way.

INFERENCE AND PROBABILITY

As indicated above, there is a close connection between inference and *probability*. An inference is sound, legitimate, to the degree that the conclusion which it reaches is probable. The test of its soundness lies in the answer to the question: What are the *chances*? Probability is established by experience. The more regularly B *has been* associated with A in the past, the more probable it is that B *will be* associated with A in the future. The closest approach to a "certainty" is an occurrence which is extremely probable or extremely improbable, as the case may be. That which is extremely probable is "almost" certain to occur, and that which is extremely improbable is "almost" certain not to occur. It is highly probable that the sun will rise tomorrow morning because this has happened so many times in the past. Another close approach to certainty is illustrated by the old syllogism: "All men are mortal; Socrates is a man; therefore Socrates is mortal." Strictly speaking, of course, we do not know that *all* men are mortal unless we know that Socrates is mortal, or else we do not know that Socrates is a *man* unless we know that he

is mortal. Nevertheless, it is extremely probable that Socrates is mortal, since beings having the *other* general characteristics of Socrates have invariably died in the past. The following case can be so interpreted as to illustrate an extremely close approach to either complete uncertainty or complete certainty. If, to paraphrase somebody's example, we set a million blindfolded apes operating typewriters for five years, what are the chances that the eventual product will exactly duplicate the contents of the Library of Congress? This specific result, or any other specific result which can be described in advance, is almost completely certain *not* to be realized; or, to put it the other way, the specific result is almost completely uncertain.

BUSINESS RISKS

For the purpose of dealing with the uncertainties which give rise to economic profits and losses, let us tentatively describe "the entrepreneur" as the business man who judges future market conditions and stands financially responsible for his judgment. Thus "entrepreneurship" is a combination of judgment and daring. Now "judgment" is exercised somewhere between the two extremes of complete certainty and complete uncertainty. At the former extreme, events need not be judged; at the latter, they cannot be judged. In between, there is latitude for the use of more or less judgment. Such events as the occurrence of fires and the results of familiar technical processes are largely reducible to routine; they call for little judgment. Such events as the decisions of foreign or domestic politicians lie largely in the realm of guesswork; they permit of little judgment. Thus judgment is exercised mainly with respect to events of an intermediate kind, such as the results of introducing new products or processes.

As a judge, the entrepreneur is handicapped in two general ways. Since he is a human being, he must err more or less in his judgment of what he can actually find out. He is likely to put too much stress on his own experience and too little on the experience of others; too much on recent events and not enough on more remote occurrences. He is likely to overdramatize both the good and the bad, to indulge in "wishful thinking" and "rationalization," to generalize broadly from meager data, to seek costly revenge when his vanity is pricked. His second general handicap is that he must deal with other human beings, especially customers and creditors. The fact that they are as prone to error as he is does not keep them from treating his errors more harshly than their own. They are too quick to interpret his bad luck as proof of incompetence or dishonesty; too strongly inclined to withdraw their patronage or

financial support. It is difficult enough to judge physical phenomena; it is extremely difficult to judge judges.

The entrepreneur is a risk bearer because he stands financially responsible for his judgment. In a very broad sense, any person is an entrepreneur in so far as his income depends on his judgment. But who or what is *typically* "the entrepreneur" in the modern business world? Who provides the judgment and who is financially responsible for it? The problem is complicated by a tendency toward the separation of ownership from control in the corporation. If the separation were complete, the shareholders would run risks on the judgment of certain insiders, and "judgment" itself would consist largely, not in appraisal of future conditions in a competitive market, but in low scheming and manipulation. Unless the separation is complete, however, both judgment and responsibility are divided between owners and hired managers. Each group normally exercises some judgment in formulating policies and in selecting general managers or subordinates. And each runs risks in acting on its judgment. Owners run the risk that company income will be affected adversely. Managers run the risk that their compensation will be reduced or that they will be removed from office. The owners and hired managers of corporations are the typical entrepreneurs of today, the former being predominant in so far as they possess real power to control the latter.

Methods of Dealing with Risk

From the point of view of the individual there are three general methods of dealing with risks. First, there is *elimination*, or the prevention of the occurrence which is feared. Our coach may make extraordinary efforts to secure athletes of exceptional ability; he may be canny in the selection of opponents or in the arrangement of schedules. Our businessman may protect himself against fire by using fireproof materials or installing fire-fighting apparatus; against injury to employees, by means of safety devices and "safety-first" campaigns; against industrial sickness, by means of medical examinations and advice; against theft, by means of safety vaults. Second, there is *shifting*, or the transfer of risk to somebody else. Our coach may become athletic director, letting a new coach cope with the Monday-morning experts. Our businessman may transfer to an insurance company the risk that his buildings will burn, or to professional speculators the risk that changes in the prices of his raw materials will cause him loss. Third, there is *preparedness*, or preparation for consequences that cannot be avoided. Our coach may save up for a rainy day, or keep his wires out for other positions. Our businessman may

accumulate a surplus against lean years. As a protection against the loss of customers during periods of peak load, he may carry reserves of raw materials and finished products.

From the public point of view, the object is to eliminate risk. This may be done in either of two general ways: by putting a curb on the changes which give rise to uncertainty, or by improving the technique of prediction.

PREVENTION

The first method is limited mostly to the prevention of unwanted occurrences. For the most part, the changes brought about by inventions and discoveries cannot be restrained without putting a brake on progress. Changes in the general level of prices may become less marked in the future than they have been in the past; but there is little reason to expect much restraint on changes in the supply and demand of particular products. As Hardy has pointed out,² the same march of civilization which improved the methods of preventing and fighting fires also brought new fire hazards. The railway brought fires by sparks. The substitution of electric for kerosene lighting, though it decreased the number of fires, increased the proportion of serious fires, because fires started by defective wiring gain headway before they are discovered. The automobile caused a new fire hazard in the form of stored fuel; and the shift of population from country to city concentrated the risk of fire. It is doubtful, therefore, that prediction will be substantially simplified by reducing the number of possible occurrences to be taken into account.

Improving the technique of prediction is mostly a matter of increasing the accuracy of inference, of improving the skill used in "reading the signs." The more complete the record of the signs, the better. In this respect the organized weather bureau has a great advantage over the old-fashioned weather prophet. Two related methods of improving inference are worth special attention.

SPECIALIZATION

One method consists in *specialization*. By specializing, men become skilled in reading certain kinds of signs. The baseball coach learns the "earmarks" of a good batter. Without information on past batting averages, he excels the typical fan in telling when a basehit is mostly luck, or when a strikeout victim is nevertheless a good hitter. Classroom bluffing which might take in the tenderhearted visitor has signs which are readily identified by the experienced teacher. As a group, businessmen

² C. O. Hardy, *Risk and Risk-Bearing* (1927), pp. 288-89.

are more accurate than laborers in their estimates of chances, because they make it their special business to estimate chances. Prediction is improved by the fact that they act as entrepreneurs, obligating themselves in advance to pay stipulated rates of wages, rent, and interest. The reason is that they learn to judge the probable outputs of labor, land, and capital better than would the people from whom they hire these agencies. They become the more skilled because they specialize in certain types of business. The building contractor sublets contracts for masonry work, plumbing, heating, and so on, thus confining himself to the chances involved in co-ordinating these activities. Just as the miller excels the shoe manufacturer in judging the hazards of milling, so is the miller excelled by the professional speculator in estimating future changes in the price of grain.

COMBINATION

The second method consists in *combination*. Accurate probabilities may apply to a combination of data every individual item of which is highly uncertain. For example, what chance does any particular book enjoy of becoming a financial success? Publishers wish they knew. A long-established house turned down Sinclair Lewis's *Main Street* as a poor business prospect! That readers like a fairly flattering account of humankind was a good general rule to follow, but it did not work in this case. Yet a house which publishes a great many books, of a sort generally acceptable to editors, can count reasonably on a profit. The successes carry the failures. There is no way of telling what particular college students will die next year as a result of speeding, but the percentage of all students who will be killed in this way can be stated with great accuracy in advance.

Businessmen take advantage of the principle of combination. They "scatter" their risks, avoid "carrying all their eggs in one basket." Sometimes this is done by securing a wide market for a given product, so that an abnormally light demand in some parts of the market is offset by an abnormally heavy demand in others. Sometimes they do it by handling a wide range of products, relying on the strong to compensate for the weak. The so-called regularization of industry may do this at the same time that it irons out undesirable fluctuation. Thus the Dennison Manufacturing Company, a producer of Christmas novelties, finding itself swamped from September to Christmas and mostly idle the rest of the time, managed to level up its business, not merely by securing Christmas orders further in advance, but by increasing greatly the variety of its products.

Because of their unusual importance, two methods of handling risk—by insurance and by hedging—will now be singled out for special discussion.

Insurance

GENERAL PRINCIPLE

To illustrate the general principle of insurance, let us begin by supposing that each of 10,000 firms owns a building worth \$100,000. If each building is considered separately, there is no way of establishing a probability of loss by fire. But a probability can be established by using the principle of combination. Say that over a period of years the average destruction has been ten buildings a year. Then there is a probable loss of \$1,000,000 a year in the future. And this probable loss, since it amounts to $1/1,000$ of the total value of buildings, can be covered by collecting from each firm $1/1,000$ of the value of its building, or \$100. Administrative expenses can be taken into account in the same way by including them in the total loss and apportioning them among the firms. So can changes in the average value of buildings, in so far as such changes are predictable.

For the sake of simplicity it has been assumed that the buildings are equally valuable, that each firm owns just one building, and that destruction is complete in each case. But all that it is really necessary to assume is that the total loss, including administrative expenses, is some predictable fraction of the total value. If the probable loss is \$1,500,000, then the loss can be covered by charging each firm .15 per cent of the value of its buildings, no matter what proportion of the total \$1,000,000,000 it happens to own. Neither is it necessary to assume that the chance of loss, per dollar's worth of property, is the same for each firm. It is only necessary to assume that a probable loss can be estimated for each type of hazard, as determined by inflammability, fire protection, location, and so on.

Our illustration relates to a particular kind of property insurance. But insurance against property damage originating from other sources—from wind or lightning, for example—follows the same principle. So does life insurance. And so does social insurance, of which workmen's compensation is an example.³

NECESSARY CONDITIONS

From the standpoint of those who are insured (this is on the understanding that the number is large), all genuine insurance amounts to

³ See Chapter XXVIII.

exchanging the risk of a large loss for the certainty of a small cost. Of course it takes two parties to make an insurance contract. In general, two willing parties will be found wherever the risk meets the following conditions.

First, there must be enough data to establish a ratio of probable loss. It is said that some years ago a man secured a policy insuring him against any damages he might have to pay as a result of his becoming angry at one of his relatives. If so, this was hardly insurance. Not even the probability of the event could be determined. Second, the risk must be grouped with a large number of independent risks. The risks of fire for a large number of adjoining inflammable buildings would not be independent. Third, the beneficiaries must not have full control of the event insured against. To illustrate, a great deal of police and detective service is required to restrain people from burning their own buildings during a depression. Fourth, the probable loss must be big enough to interest beneficiaries. The probability of death by meteors is not high enough, while nervous shock from the sight of surrealism or the sound of saxaphones, although highly probable, is not damaging enough. Fifth, the probable loss must be low enough to keep the cost of insurance down to a reasonable level. Scheduled football games may be insured against bad weather, but the cost of similar insurance for tennis matches, which are much more vulnerable to weather conditions, is more likely to be prohibitive.

LIFE INSURANCE

Life insurance is not, of course, insurance against loss of life. It is insurance against loss of earnings or savings that would be caused by loss of the insured person's life, and the beneficiary is typically the wife or family of the insured person. This becomes clear when we note the essential difference between life insurance and endowment insurance.

In the case of life insurance, the company is to pay the beneficiary a designated amount if the insured person dies within a specified period. The risk of a large loss which otherwise would be borne by the beneficiary is thus exchanged for the certainty of small periodic payments called "premiums."⁴ In the case of endowment insurance, on the other hand, it often happens that the insured person is his own beneficiary.

⁴ In "ordinary" insurance, the payment of premiums continues until the insured dies. In straight "term" insurance, both the payment of premiums and the insurance itself cease on the expiration of a certain term. Thus, a man may want to carry certain insurance for only a term of twenty years, figuring that at the end of this period his children will be self-supporting. It is common, however, for the insurance to cover the entire lifetime of the insured while the premium payments continue for only a specified period and are made large enough to compensate the company for its continued responsibility. In a "twenty-payment life" policy, for example, insurance good for the remainder of a lifetime is secured by twenty annual payments.

He is to get a lump sum or a series of payments in the event that he makes certain payments. Thus he adopts a form of compulsory saving. By obliging himself to save enough to pay the premiums, he insures himself against the risk that his will power might prove unequal to the task of saving. Many "life insurance" policies combine life and endowment insurance. Where this is the case, the company obligates itself to make payment in either of two events: that the insured die within a specified period (life insurance), or that he make given payments to the company (endowment, or investment).

FUNCTIONS OF INSURANCE

A great many people would gain a little by not carrying insurance, and a few would lose a great deal. Insurance thus prevents much suffering, because it operates on the humanitarian principle that many backs make a light load. By reducing the importance of the part played by luck it serves as an incentive to effort. It increases the social usefulness of individuals also in another way. Without property insurance, many men would be put out of business, and the community would lose because of their ceasing to do what they are specially equipped to do. Without life insurance, many families would be thrown on charity, to the detriment of their training and morale.

In a broader way, insurance effects an economy by substituting predictable costs for uncertainties. It makes prices conform more closely with costs. Unless there is a close conformity, the price system distributes productive resources uneconomically among different undertakings. Men overrate or underrate uncertain prospects, and the overestimates and underestimates do not cancel out. Occupational accidents and diseases provide an example. "Familiarity breeds contempt," and workmen characteristically underestimate the dangers of hazardous work. Workmen's compensation insurance serves to protect them and their families from their erroneous judgment. At the same time, since the cost of the insurance falls on industries according to their hazards, the public is protected from excessive investment in dangerous industries.⁵

On the whole, insurance also decreases the frequency of occurrence of unwanted events. No doubt it sometimes encourages carelessness, and no doubt the prospect of insurance benefits prompts occasional fires, "robberies," and even murders. If this were the general result, however, the costs of insurance would be prohibitive, which in practice they are not. Carelessness is restrained by the fact that charges are graduated according to hazards, while "framing" is held in check by the vigilance of

⁵ For a brief discussion of such insurance, see Chapter XXVIII.

insurance companies and law-enforcement agencies. Industrial firms would hardly continue to undertake preventive work if it did not serve to decrease losses and insurance rates. An illustration of the results is seen in the group insurance, including health insurance, now being carried by some 25,000 firms in all types of industry. Health insurance provides for periodic physical examinations and medical advice for the workers, who are insured against loss of earnings from sickness. Several years ago the Life Extension Institute reported that mortality had decreased almost a fifth in a group covered by such insurance, and individual companies claimed considerably greater reductions in the amount of sickness.

Speculation and Hedging

In some cases risks which do not meet the conditions required by insurance can be shifted by "hedging." The essence of hedging lies in making one venture offset another, that is, in making the gain on one offset the loss on another. To illustrate: if you have already bet that A will defeat B in a boxing contest, you can hedge by making another bet that B will defeat A. If the two boxers stand at "even money" in the betting, and if you are not required to pay professional "bookies" something for placing your bets, your second bet will entirely obviate the risk created by making the first. Of course this sort of case is uncommon, because one would rarely seek to avoid a risk which he had deliberately created in the first place. But in the economic world it is common to hedge "speculative" risks, or risks which, instead of being arbitrarily created, must be assumed by somebody.

SPECULATIVE RISKS

Speculative risks have to do especially with price changes, with differences between present and future prices. Since such changes are bound to occur, and since their direction and extent cannot be predicted perfectly, someone is obliged to speculate. But businessmen typically prefer to confine themselves to the tasks for which they feel themselves especially fitted, leaving this sort of speculation to those who want to engage in it. For example, the main business of the operator of a grain elevator is storing grain, not speculating on the price of grain. By buying grain and shipping it to other buyers, the operator seeks to make money from the use of storage facilities and skill as a middleman. But storage and shipment take time. Thus they involve the operator in speculation unless he can shift the risk of price changes to somebody else. Most of the risk can be shifted, however, because there is "organized speculation,"

an organized market in which there are people who make it their special business to speculate.

SPECULATION

Speculators in land, grain, and corporate securities, for example, depend for their income on their judgment of future price movements. Thus the wheat speculator estimates the direction and extent of changes in the price of wheat. In order to make money, he need not estimate with absolute accuracy. It is only necessary that he be more accurate than others who are in the market. If he thinks the price will rise, he buys with the object of selling later. He is said to be a "bull." If he believes the price will fall, he sells with the object of buying later. He is said to be a "bear." But it is not necessary that the bull immediately take the wheat that he buys, or that the bear immediately deliver the wheat that he sells. In an organized market, such as the Chicago Board of Trade, this is not the case. Instead, the dealings are in "futures." The bull "buys long." That is, he undertakes to accept wheat in the future at a price which is specified now. And the bear "sells short." That is, he undertakes to deliver wheat in the future at a price which is specified now. By following a little further the example of speculative trading in wheat, we can see how speculative judgment works.

If all parts of the Northern and Southern Hemispheres are taken into account, wheat is being harvested almost every month in the year. The continuity is the more pronounced because different varieties of wheat are grown in the same latitude. There is "winter" wheat, sown in the autumn and harvested about the middle of the next summer; and there is "spring" wheat, sown in the spring and harvested later than the winter wheat. The result is that there are, in the United States, several more or less distinct "future" markets during the year: for March, May, July, September, and December. The price of wheat at any given time is affected by the anticipation of future conditions, and not merely by demand and supply as they would exist if the present were isolated from the future.

Say that the time is March. The supply of actual wheat is abnormally large for this time of year. Were it not for the present effect of anticipations, the price would be very low. Assume that it would be 60 cents. But there has been a winter of light snow, and the prospects for the winter wheat are bad. They are so poor as to indicate that the price would rise to \$1.20 by midsummer if the summer market and the present market were isolated from each other. But it costs, say, only 4 cents a bushel to carry wheat from now till then. And carrying wheat over raises the

present price and depresses the future price. It should leave the two prices no farther apart than about the amount of the carrying cost.

Assume, then, that present, or "spot," wheat goes to 88 cents, and July wheat to 92. Note that these prices are the result of the judgments of all traders. Everybody counts on the short crop, but the extent of the shortage is estimated by all sorts of prophets, good, bad, and indifferent. The individual speculator can make a profit if his judgment is better than the average. According to the general judgment it becomes a matter of indifference, once the prices of 88 and 92 are established, whether one buys long or sells short. According to the individual speculator this is not so. A given speculator, if he is right in supposing that 92 reflects an underestimate of the shortage, makes money by buying long at 92. And he makes money by selling short at 92 if he is correct in assuming that this price overestimates the shortage.⁶

It is by using a market where such organized speculation goes on that our operator of a grain elevator is able to escape most of the risk of price changes.

HEDGING

Say that on September 20 our operator, White, buys 10,000 bushels of wheat at \$1.00 and stores it pending sale. We shall assume that the sale is to occur on October 10. But White does not know in advance when the sale will be made. What he does know is that even a small decline in the price can cause him a large loss. To avoid speculation on the future price, he hedges. For the sake of simplicity we shall assume, until further notice, that the conditions for hedging are ideal. White offsets his transaction in actual wheat, his "trade transaction," with an opposite transaction in future wheat, a "speculative transaction." He does this by selling 10,000 bushels of wheat for December delivery. The price for the short sale is \$1.04, the difference between \$1.00 and \$1.04 representing the estimated cost of carrying a bushel to December.

October 10 arrives. White sells his 10,000 bushels of trade wheat to a miller. His fear has been confirmed. The price of wheat has dropped 5 cents. However, he has protected himself by his speculative deal. Since present and future prices are closely linked, the price of future wheat has dropped by about the same amount. White would now break even if he could fulfill his future contract by buying wheat at 99 cents and delivering it. He would make 5 cents a bushel on the speculative

⁶ But when midsummer arrives the "spot" price will again be influenced by erroneous estimates of September conditions. Thus the speculator is called on to judge not only technical conditions but also other people's judgment.

deal, thus offsetting the loss of 5 cents a bushel on the trade deal.⁷ Now he cannot do precisely this, since the delivery of the future wheat is set for December. But he can do what amounts to the same thing. He can sell out his speculative contract. That is, he can sell to a speculator his right to deliver wheat in December at \$1.04. Since the October 10 price of December wheat will have fallen to about 99, he can get about 5 cents a bushel for his contract.

In this illustration hedging has been accomplished by selling short. To take a similar case, suppose that a miller has bought a large quantity of grain and has not sold flour forward at a price specified in advance. Fearing that a fall in the price of grain will depress the price of flour, he may protect himself in the same way. Usually, however, the miller hedges by buying long. Not having storage space for much grain at a time, he sells flour forward, and buys grain piecemeal as he needs it for milling. What he fears under these circumstances is a rising market. Consequently he buys grain long, and then, as he buys actual grain for milling, he sells out corresponding amounts of his future grain. (For purposes of milling, he cannot simply accept delivery of his future grain, since he cannot in advance arrange deliveries to coincide with the amounts of grain which will be needed at particular times.) If the price of grain rises, he gains on his speculation what he loses on his trade deal; if it falls, he gains on his trade deal what he loses on his speculation.

LIMITATIONS ON HEDGING

Now let us observe why the conditions for hedging fall short of being ideal in practice. The shifting of risk by means of hedging is limited in at least two ways.

First, a satisfactory commodity must be found for the speculative transaction. It must be a commodity whose price movements parallel pretty closely the price movements of the commodity involved in the trade transaction. The spot price and the future price are more likely to move in lockstep when they refer to homogeneous commodities. In the case of raw materials like cereal grains, coffee, sugar, cotton, cottonseed oil, flax, and the like, a satisfactory commodity is readily found. This is done by hedging wheat against wheat, sugar against sugar, and so on. In the case of most manufactured articles there is seldom such a neat solution for the problem. The prices of various brands move more or less independently. The same thing is true of the price of a finished article and the price of the leading raw material from which it is made. The

⁷ In strict accuracy, White loses more than 5 cents a bushel on his trade deal. He loses 5 cents plus the cost of carrying a bushel to October 10.

price connection may be fairly close between wheat and wheat flour, but it is not likely to be so close between leather and shoes. Satisfactory hedging requires highly standardized commodities.

Second, the "spread" between the spot price and the future price behaves none too reliably. To illustrate—on May 1 the spread between No. 1 cash wheat and No. 1 wheat for July 1 delivery should equal the estimated per bushel cost of carrying such wheat (insurance, and interest on capital tied up in storage facilities and wheat) for two months. Say that this cost is 4 cents. Further, when June 1 arrives the spread between cash and July wheat should have fallen to about 2 cents, since the period of the carry has been cut in two. However, the cost of carrying may have changed a great deal. It may even have increased so much as to widen the spread instead of narrowing it.

Worse still, the spread is often just the opposite of what it "should" be. That is, the future price, instead of exceeding the spot price, is frequently below the spot price. The reason is the irregularity of marketing. Bad roads, strikes, and car shortage often hold up marketing. Thus there is a tendency for the spot price to rise because of the actual shortage while the future price is based on reports which make little allowance for possible interruptions of marketing. Nevertheless, changes in the commodity prices are ordinarily greater than fluctuations in the spread, so that protection is still afforded by hedging.

USES OF SPECULATION

Speculation, in so far as it is informed and honest, is useful in the following related ways.

First, it irons out price fluctuations. Notice what happened in a case where speculation was prevented. During 1864, when greenbacks had taken the place of gold as our standard money, the greenback price of what used to be a dollar in gold rose to two dollars on the gold exchange which had been set up in New York City. Speculators were selling gold short to importers and others who needed to protect themselves from increases in its greenback price. But the idea got around, and apparently as far as President Lincoln, that speculation was responsible for the high prices. Thinking to reduce and stabilize the price, Congress abolished the exchange and prohibited speculation in gold. At once the price of gold rose faster and higher than ever, because those who had been in the habit of buying futures were now obliged to buy actual gold right away. Besides, a number of more or less isolated gold markets were now substituted for the single market in New York, and local discrepancies in

the prices of gold became very pronounced. The new law was repealed two weeks after its enactment.

Second, the stabilization of price stabilizes production and consumption. During the World War the prospect of a poor yield of wheat in Canada and the United States raised the price in advance of the shortage. In that way it not only restrained consumption but also relieved the shortage by encouraging an extension of acreage. During the time of our AAA crop-reduction program, drought drove up the prices of cereal grains before its effects materialized in the form of scanty harvests. Guided partly by the judgment of professional speculators, as reflected in prices, the authorities relaxed the curtailment of acreage in advance of the actual shortage, thus preventing a more serious shortage and a more abrupt increase of prices.

Organized speculation serves also to even up prices between local markets. This is done by "arbitrage" transaction. Suppose the price of wheat is \$1.00 at Minneapolis and \$1.10 at Chicago, while the cost of moving wheat between the two points is only \$.05 a bushel. The margin will be narrowed quickly to about \$.05, because speculators will soon have brokers buying wheat in Minneapolis for sale in Chicago. Speculation thus regulates production and consumption not only with respect to time but with respect to place as well. Shortly before 1900 the German agricultural interests discovered the advantages of organized speculation in grain by inducing their government to stop it. They thought that it depressed prices when grain came to market. The result of the prohibitory legislation was that elevators could no longer execute hedges against their grain. Hence they dared not take grain as rapidly as before, and the depression of prices during the marketing season became more pronounced than ever. In 1900 organized futures trading was restored.

Third, speculation reduces risks. It does this by shifting the prediction of price changes to specialized forecasters. Traders in the organized exchanges use the best sources of information, including government crop reports, current price quotations, and indexes of business conditions. They become skilled in securing and interpreting data. The exchanges expedite their work, providing information, furnishing a place for trade and rules to regulate it, and rendering world-wide telegraphic reports of transactions almost as soon as the transactions are made. With a decrease of ignorance goes a decrease of uncertainty and risk.

SPECULATION IN SECURITIES

The case is somewhat different with speculation in corporate securities. With actual and prospective changes in corporate earnings, in

general business conditions, in money rates, in the general price level, and the like, the prices of securities fluctuate. Their fluctuation is even more rapid than changes in the prices of commodities, and it occasions correspondingly more speculation. This speculation, too, is conducted in organized exchanges, variously called "bourses" and "stock exchanges," of which the New York Stock Exchange is the most important example. Trading is done through exchange members, who act mostly as middlemen for those who do not hold seats.

From the point of view of economic functions performed, securities speculation differs from produce speculation in these respects: First, it has a less stabilizing influence on supply. That is, securities do not display seasonal variations in supply which can be smoothed out by futures trading. Nevertheless, the speculation does indirectly regulate the "outputs" of securities. It provides a continuous quotation of prices which serves as a guide to investors. A corporation whose securities are going well is in a correspondingly good position to increase its issues as a means of extending its business. Second, securities speculation provides a greater volume of sheer gambling, and of ignorant and shady dealing, than commodity speculation does.

ABUSES OF SPECULATION

Speculation performs a social service only where it means that experts are studying the signs of future change and are bringing prices into line with what they learn. Unfortunately, much of it has always been the product of ignorant persons or of experts bent on lining their pockets by withholding facts and spreading misinformation.

Trading in the shares of stock companies had scarcely been organized in England before this began to be the case. Information was withheld. Learning, a day before the English ambassador could reach London with the official announcement, that the 1697 Treaty of Ryswick had been signed, speculators bought bank shares which soon rose more than 10 per cent. False rumors were spread. The same interests would employ one set of brokers to sell small amounts of certain securities spectacularly and another set to buy large amounts of the same securities quietly. One group bought industriously soon after a well-dressed horseman had dashed through London's financial district loudly proclaiming the fictitious death of Queen Anne. During the time of the Mississippi and South Sea "bubbles" of the early 1700's, people bought insurance against death by drinking gin, invested in a company formed to make perpetual-motion machines, even subscribed heavily "for an undertaking which shall in due time be revealed." In the case of the two "bubbles" men-

tioned, the English and French governments became involved, along with thousands of their greedy subjects, in schemes for tapping the supposedly fabulous wealth of the Mississippi Valley and the South Seas.

Although the crooked manipulation of prices is exceptional today, a large part of speculation still consists of activities conducted so blindly as to be little better than gambling. A vivid illustration is seen in the $8\frac{1}{2}$ billion dollars of brokers' loans outstanding on September 30, 1929, during a period of stock market speculation. These funds had first been loaned by banks to stock brokers. Then they were put at the disposal of speculators who were trading on margin. In marginal trading, the "bull" may put up only a margin, say 20 per cent, of the price of the security which he buys long, and the "bear" may put up a similar margin in selling short.⁸ The margin serves to protect the broker against price changes. It serves also to protect the speculator from being closed out by the broker because prices are changing. The remainder of the funds comes mainly from commercial banks. No very large part of this enormous total was required or used for the expert regulation of prices. Most of the funds were loaned to uninformed persons who used them in sheer gambling.

In general, these "lambs" proceeded on the theory that what has gone up must surely go higher. Little account was taken of the fact that the earnings of corporations set a limit to the real value of securities, or that bank reserves set a limit to their speculative value. Or, if it was suspected that "what goes up must come down," the individual typically believed that he himself would get out in time. Just as it had done during the time of the famous "bubbles" two centuries earlier, speculative fever carried security prices to unwarranted heights. The Wall Street Bubble was pricked in late October of 1929. In the course of a few days, General Motors, General Electric, Westinghouse, A. T. & T., Chrysler, and other leaders in the boom, dropped anywhere from a hundred to two hundred points from the year's high. The details of the collapse are not important here. The point is that speculation had adjusted prices less to facts than to fancies.

⁸ The Board of Governors of the Federal Reserve System, which now regulates marginal trading, requires much larger margins. The general rule laid down by the revised regulation of January, 1938, was that the margin required should not be less than 50 per cent of the current value of the security in selling short, and not less than 40 per cent in buying long. The object is not merely to restrain speculation as such but also to control the amount of commercial bank loans by limiting the volume which can be extended for purposes of speculation. During a business boom, for instance, when securities speculation tends to be most pronounced, the requirement of big margins has the effect of restricting loans. Banks cannot lend what speculators and brokers cannot borrow.

PROBLEMS

1. "Uncertainty and risk arise from our ignorance of the future, but our ignorance of the future arises from our ignorance of the past and present."

Do you agree? Explain. Describe a situation, and give an approximate illustration of it, in which the future is known as well as the past.

2. Show how a businessman faces risk because of (a) the nature of the technical data with which he deals; (b) his own nature; (c) the nature of his customers and creditors.

3. "Risks which cannot be eliminated by preventing unwanted occurrences may sometimes be eliminated or reduced by increasing the accuracy of inference."

(a) Explain and illustrate the nature of inference.

(b) Show how the results of inference may be improved by specialization. By combination. What important means of reducing economic risks are based on these principles?

4. "Insurance and hedging merely transfer risks to insurance companies and speculators, respectively. Hence, although they may be useful to individuals, it is erroneous to say that they benefit society by reducing risk." Discuss.

5. "All insurance is really 'mutual.'"

Defend this statement by explaining the essential principle of insurance and illustrating its operation.

6. Explain and illustrate the general conditions under which a risk is insurable.

7. "Insurance encourages production, not merely by enabling men to perform their special services in spite of unwanted occurrences, but also by reducing the importance of luck and making the price system work better." Explain and illustrate.

8. What is the essential nature of hedging? Explain the general conditions under which speculative risks can be hedged.

9. Work out a case in which a hedge is effected by selling short. Another in which it is effected by buying long.

10. Explain in what respects speculative trading tends to be economically useful. Illustrate your explanation by indicating what would happen if speculative trading were prohibited.

11. What factors tend to deprive speculative trading of its usefulness? Explain.

12. "The spread between the spot price and the future price tends to equal the estimated carrying cost, and it tends to narrow as the time for the fulfillment of the futures contract draws nearer.

(a) Explain the statement.

(b) Must the spread actually narrow? Explain.

(c) May the spot price exceed the future price? Explain.

(d) Would you say that the "irregular" behavior of the spread nullifies the usefulness of speculative trading? Explain.

REFERENCES

See references at the close of Chapter XXVI.

XXVI

RISK AND PROFITS: PROFITS

He either fears his fate too much,
Or his deserts are small,
Who dares not put it to the touch
To win or lose it all.¹

The Meaning of Profits

THE OPENING sentences of Chapter XXV stated that economic profits are commonly described as the reward of successful risk bearing, and that economic losses may be similarly described as the punishment for unsuccessful risk bearing. Thus, as a product of entrepreneurial judgment and daring, profits and losses are a very conspicuous feature of speculative trading, and a very inconspicuous feature of insurance. But the term profits is open to a much broader interpretation. This is true in two senses. On the one hand, businessmen generally include in the category of profits certain returns which are excluded by the economist. On the other hand, the economist generally includes in this category certain returns which do not stem from the assumption of ordinary entrepreneurial risk.

BUSINESS PROFITS AND ECONOMIC PROFITS

Let us take a few examples of returns which are popularly called "profits." By the year 1500, the investment in the first voyage of Vasco da Gama to India had yielded a return of 6,000 per cent. Leopold II of Belgium realized a return of some \$20,000,000 on "economic imperialism" in the Congo. For a time the Aluminum Company of America made around \$2,000,000 a year; and Standard Oil created several millionaires and one billionaire; and the World War increased the number of American millionaires by about 17,000. But the "profits" need not be so extreme in order to illustrate the popular use of the term. Thus, in the

¹ Marquis of Montrose, *My Dear and Only Love*.

period 1919-1928, 3,144 large American corporations made average annual returns, after the deduction of income taxes, of 9.2 per cent of their capitalization. Again, in the extremely prosperous year of 1929 nearly half the owners of independent small businesses in the United States made less than \$1,000, and fewer than 30 per cent of them got more than \$2,000. These returns roughly represent *business profits*, but they are greatly in excess of *economic profits*.

The difference between the two interpretations of profits may be indicated as follows. In a given year a manufacturing firm makes a gross income of \$100,000. Its business profits (net income) are equal to this gross income less all *explicit* costs, or all contractual payments incurred in carrying on production. Such costs are incurred in covering the depreciation of physical productive agents, buying raw materials and labor used in manufacture, selling the product, paying taxes and insurance and interest. Broadly, they are reducible to payments for the services of physical and human agents of production. Say that \$9,000 goes for land rent, \$20,000 for interest, and \$43,000 for wages, including the wages of hired managers. This totals up to \$72,000 of explicit costs, and leaves business profits of \$28,000. Economic profits are now found by further deducting all *implicit* costs on the use of productive agents which are owned by the firm. Say that these costs amount of \$5,000 of land rent and \$20,000 of interest. (Implicit wages are omitted because it is now the practice, except with small firms managed by their owners, to pay contractual wages to practically all labor.) Then business profits of \$28,000, less total implicit costs of \$25,000, equal \$3,000 of economic profit. As we wish to distinguish profits from land rent, interest, and wages, the term profits will be used hereafter in the sense of economic profits, unless clear indication is given to the contrary.

RISK-BEARING PROFITS AND OTHER ECONOMIC PROFITS

From our examples of war millionaires, imperialists, and so on, it further appears that the successful assumption of entrepreneurial risk is not the sole explanation of profits. The enterprises in which Leopold II was involved exploited the natives of the Belgian Congo so brutally as to become an international scandal. The oil and aluminum trusts exercised monopoly power to drive selling prices above costs by restricting output. The industries in which war profiteering occurred were under-invested, not because the investment of productive power in them was deliberately restricted but because it could not be expanded fast enough to offset the effect of the extremely rapid growth in the demand for certain products. These cases alone are enough to indicate that we must dis-

tinguish between different sources of profit in order to determine the connection, close or loose, between profits and earned income.

Sources of Profits

There would be no economic profits under "perfect" competition. If, in other words, labor and the physical agents of production could be instantly so distributed as to make equally good units of every agent equally productive in all fields, the whole output of our economy would be imputed to these agents. Everything would be "rent, interest, and wages." If it is permissible to pass over the "exploitative" profits sometimes enjoyed by cutthroat business firms, blackmailing union officials, callous imperialists, and other major and minor extortionists, the main sources of profits under imperfect competition may be indicated as follows. First, in almost any field of production where numerous firms compete, some firms make profits because their costs are well below the general average. Second, the selling price of a standardized product may be forced above the average cost by exercising monopoly power to restrict the output. Third, a given producer among several or many turning out a general type of product may differentiate his particular product in such a way as to secure a position somewhat like that of the firm or combination which monopolizes a standardized product. Fourth, an unusually rapid increase of demand may for a time enable most or all of the producers in a given field to sell above cost. Fifth, profits may be traced to the successful assumption of entrepreneurial risk, as interpreted in Chapter XXV.

It is not to be understood that these sources are sharply separate in practice. As a rule we do not find certain specific profits arising wholly from one source, other specific profits arising wholly from a second source, and so on. Rather, the "sources" are to be construed as different elements entering into the determination of specific profits. In particular, the fifth source overlaps some of the others. For instance, judgment and daring play a part in the differentiation of a product, in the adoption of an invention which enables a firm to produce at abnormally low cost, and perhaps in the placing of investment in an industry in anticipation of an increase of demand. Nevertheless, the sources, or elements, are combined in different proportions in different specific cases; and this fact is important when we undertake to study the uses and abuses of profits.

PROFITS AND LOW-COST FIRMS

At any given time, as we saw in Chapter XI, the average cost of producing a given commodity differs more or less from producer to pro-

ducer, but the selling price is about equal to the "bulk-line" cost. Hence any firm which produces below the bulk-line cost can make so much profit. For example, during the height of railway construction in the 1880's the Carnegie plants were able to produce steel rails at abnormally low cost. In general, cost differentials are ascribable to two factors: the incessant economic changes which affect costs, and the uneven reaction of different entrepreneurs to these changes. Take such changes as the following: A migration of labor decreases wage costs for some firms. An improvement in transportation effects a comparatively great reduction in the cost of raw materials for some firms. A change in banking organization enables some firms to borrow at substantially lower rates than before. An invention enables some firms to decrease their cost of production. Undoubtedly such changes give rise to entrepreneurial risk. Enterprises must judge whether it would pay to transfer operations to new locations, to adopt new types of equipment, to enter a new line of business. The answer is made the more difficult by the uncertainty which surrounds the future policies of their competitors. Depending on their judgment and their willingness to act on it, various entrepreneurs respond differently. The differences in the responses partially explain the profits of the low-cost firms. But this is not the entire explanation.

There is also an element of luck. When a change first occurs, some firms benefit largely as a matter of chance. Say that a declining foreign market for cotton, or, perhaps, the growing use of a mechanical cotton-picker, causes large numbers of workers to leave the South. They concentrate on the North Central States, where most of them seek employment in factories. Certain entrepreneurs, as their factories are already located in this region, need not have forejudged the character or extent of the labor migration in order to enjoy the benefit of a decrease in wages. They can realize profits without exercising superior judgment or daring. Luck plays a similar part with respect to other changes. Some firms happen to be so located that changes in transportation or banking facilities are of especial advantage to them. Some chance to be so situated that the adoption of improvements is particularly easy for them. So it was with Japanese textile producers during and after the World War. They found it a comparatively simple matter to install ring spinners and power looms of the latest types. Since the war led to a rapid expansion of textile manufacture in their region, they did not find it necessary, as did their competitors in England, to scrap the old in order to adopt the new. In the long run the profits occasioned by any given changes tend to decline under the pressure of competition, and such profits as persist are strongly correlated with superior entrepreneurship. Nevertheless, the

continual appearance of fresh changes makes luck an important factor at all times.

PROFITS AND MONOPOLY

The once high profits of such enterprises as Standard Oil, International Harvester, and American Tobacco were largely the result of monopoly power. The trusts sometimes used price discrimination to kill off competition, but in the main the immediate source of profits was simple monopoly, which drove selling price above average cost by limiting output. Simple monopoly is now less spectacular than it was in the heyday of the trusts, but it is still important. Its essential characteristic, output restriction, exists to some degree under various forms of "monopolistic competition." Thus it continues to play a part in determining profits in a wide range of industries. Included in these industries are petroleum, farm machinery, anthracite coal, steel rails, automobiles and their accessories, cement, paper, corn products, packed meats, industrial alcohol, fertilizers, sugar, tin plate, woolen fabrics, glass, rayon, shoe machinery, sulphur, branded goods in general, and even commercial credit. Discriminating monopoly, or monopoly plus price discrimination among different buyers, tends to yield higher gains than simple monopoly. But the conditions necessary to its existence—the nontransference of buyers from high-price to low-price markets, and the nontransference of the commodity by low-price buyers to the high-price market—are very hard to meet.

PROFITS AND PRODUCT DIFFERENTIATION

In order to deal with the profits yielded by a differentiated product, let us begin by assuming that Mr. X is one of a large number of producers of identical packages of cigarettes. The demand for his output is extremely elastic. Therefore he might make large profits if he could produce at slightly less cost than his competitors. But, since all produce just the same thing, there is no reason to suppose that he can do this. Consequently he changes the demand for his output by differentiating his product from the rest. Perhaps he improves the quality of his product; perhaps, by such means as advertising or distinctive paper containers, he only makes the buyers think he has improved it; or it may be that he does some of both. However he does it, the differentiation makes the demand schedule for his product less elastic than before, and it may lift this schedule as a whole above its former level. Now he is a monopolist, in the sense that he is the only seller of *his* variety of cigarettes. Even

though his cost may have been increased, he can presumably make a profit by so controlling output and sales as to sell above his cost.

The relation between product differentiation and entrepreneurial risk depends partly on the method of differentiation. Suppose *X* relies wholly on improving the quality of his cigarettes. Even if the cost of the improvement can be predicted accurately, there is much doubt about the effect on demand and the time which will be required to produce the effect. Further, such inelasticity as *X* may succeed in imparting to his demand schedule is likely to be eliminated before long by changes in the policies of his rivals. Here we seem to have a legitimate entrepreneurial risk in the sense that in the long run the customers tend to get the whole benefit of the improvement. But the conclusion is essentially different in so far as products are differentiated by means of policies which, at best, merely change or seek to change the distribution of consumer expenditures among equally good forms of the general product. The risk assumed by one producer that his attempt to attract patronage from his rivals will fail, or that their similar attempts will succeed, is hardly a legitimate entrepreneurial risk, since the net effect of all attempts is to waste economic resources.

PROFITS AND CHANGES OF DEMAND

We turn next to demand changes which are largely beyond the control of sellers. There are sometimes changes which affect not merely a particular firm but all the firms in a given field or a number of fields of enterprise. Perhaps the most spectacular examples are provided by war. When profiteering made thousands of new American millionaires, the basic reason was that governmental demand for certain products rose out of all proportion to any practicable expansion of output. Therefore prices were chronically much above costs until the government intervened to limit prices, and many serious discrepancies existed after that. A similar situation arises when a government imposes new or higher import restrictions. If, for example, our government raises the import duty on photographic films, the demand for American films tends to increase and the selling price tends to rise above the cost. Home producers are likely to make profits even if they are competing with one another, because it takes time to expand production enough to equalize selling price and cost. Now, how are such profits related to entrepreneurial risk?

First it should be observed that these changes of demand give rise to risks. When a government goes into the market with an immense amount of funds, there must sooner or later be not only an increase in the demand for the things the government wants but also a decrease in

the demand for the things it does not want. For a time, inflation may make it possible to spend much more money for war goods without spending much less for peace goods. For a time, too, the absorption of idle productive power into industry may make it possible to produce much more war goods without producing much less peace goods.² But when inflation raises money costs, and when usable resources come to be more and more fully employed, peace goods must suffer from the competition of war goods. In similar fashion, tariff changes which increase the demand for some American goods also decrease the demand for other American goods. The ever-present possibility that demand changes of the kind now under discussion will occur is always occasioning not only chances for profits but also risks of loss.

But are such risks *entrepreneurial* risks, in the proper sense of the term? The term implies a risk of such a nature that the assumption of the risk performs some useful function. The risk in question is the risk which men assume when they make themselves financially responsible for their *judgment* of the future. Where little real judgment can be exercised, little is to be gained by letting men take profits for the successful assumption of risk. On the contrary, future commitments based on guesswork give rise to gambling risks, rather than entrepreneurial risks, and the possibility of making money by guessing encourages gambling. With respect to the demand changes which we are considering now, guesswork is very prominent, and the latitude for real judgment is correspondingly restricted. The businessman is generally in a poor position to judge whether, where, or when his country may get into a war, how the war may be waged, how long it may last, or what its outcome may be. The public officials who make the vital decisions shroud their deliberations in no little secrecy, and even they have a very cloudy vision of the future. The businessman has a somewhat similar position where forthcoming governmental policies in the field of peacetime foreign trade and finance are concerned. Commonly he must "wait and see" what happens, and judgment has comparatively little to do with the profits or losses which eventually come his way. In times of war and war preparations, our government recognizes this fact, to some degree, by using

² Not for long, however, when the government is undertaking to build most of a major defense establishment in a hurry. It takes *particular* kinds of labor, capital goods, and even raw materials, to produce defense equipment. It also takes time to increase the total quantities of these production goods. The sooner, therefore, any given amount of defense equipment is required, the more imperative it is to give such equipment priority over other products in the allocation of the particular kinds of production goods in question. It is a mistake to suppose that the decrease of "butter" depends simply on the *amount* of "guns" we require. The extent of this decrease depends also on the *speed* with which we propose to secure "guns."

such devices as guaranteed returns and maximum prices to limit profits and losses. At other times it assumes less responsibility for the private consequences of its decision.

ENTREPRENEURIAL RISK AND PROFITS: "FACTUAL" APPROACH

How do businessmen in general fare in the long run as a result of their assuming entrepreneurial risks? Do they, on balance, overestimate these risks (undervalue the services of productive agents) and therefore make profits, or is the situation the contrary? Here we may appeal to either specific facts or general reasoning. Such reliable specific information as we have comes mainly from government figures collected by the Treasury Department in the course of assessing income taxes, and it relates chiefly to the business profits of corporations.

American business profits in general came to about 4.7 billions of dollars in 1913, stood at some 11.6 billions in 1929, when they represented roughly 23 per cent of our national income, and fell to about 2.1 billions in 1932, a depression year in which the deficits suffered by nearly 370,000 corporations totalled up to almost 7.8 billions. This fluctuation should not prove surprising, since business profits consist of what is left after deducting explicit costs from gross income. Fluctuations tend to be greatest in the industries which are most susceptible to the influence of cyclical booms and depressions. Thus, the industries which produce capital equipment, durable consumer goods, and industrial materials are highly susceptible, while public utilities and the industries turning out the more perishable consumer goods are comparatively immune. Average business profits, or business profits averaged over good years and bad, vary greatly from industry to industry. In the period 1919-1928, according to Epstein,³ the corporations in ten out of 73 manufacturing industries averaged from 17.3 to 31.6 per cent of their capitalization, while the corporations in another ten of these industries averaged only from 1.9 to 8.4 per cent. Finally, profits vary greatly from firm to firm in any given industry.

As a source of enlightenment on entrepreneurial profits, however, such information is inadequate in the following respects. First, it relates to business profits rather than economic profits. Second, the periods covered are probably not extended enough to provide an unbiased sample of the "long run." Thus the 1919-1928 period, which indicates returns well above the prevailing rate of interest on good bonds, probably includes an unduly high proportion of prosperous years. Third, even if

³ Epstein, Ralph C., assisted by Florence M. Clark, *Industrial Profits in the United States*. New York: National Bureau of Economic Research, 1934, p. 43.

these defects were corrected, there would remain the problem of distinguishing profits which are, from profits which are not, the result of assuming entrepreneurial risk.

ENTREPRENEURIAL RISK AND PROFITS: "THEORETICAL" APPROACH

When we turn to general reasoning, it may be well to begin with two observations about the "necessity" of profits. First, business men need not receive economic profits in order to make a living. To be sure, they must make business profits. But they can make business profits without making economic profits. Indeed, they can make business profits, net incomes, even when their economic profits are negative. This is what happens when they get something for the use of their own agents of production but not so much as the competitive rates of return. Many American farmers have been suffering losses and yet receiving net income for a long time. Second, men in general cannot refuse to assume risks. In an uncertain world, production cannot go on unless someone assumes risks. Thus it is erroneous to argue that men must make profits or else they will not run risks. Conceivably we might all refuse to run risks as private individuals, but in that case we should have to substitute public for private risk bearing. In order to operate a system of private risk bearing, it is not necessary that profits always be *obtained*. It is only necessary that they be *obtainable*, as evidenced by the fact that they are at least *sometimes* obtained. But this does not tell us whether the profits which are actually obtained are more than sufficient or less than sufficient to offset the losses which are actually suffered.

Here we have to contend with the more or less indefinite character of entrepreneurial risk. As we have seen, the situations in which entrepreneurial judgment is actually exercised lie somewhere between the two theoretical extremes of pure guesswork and precise mathematical prediction. Within these limits entrepreneurs judge and back their judgment. They "take chances." We want to know the terms on which they take chances. Clarity may now be gained by distinguishing broadly between two kinds of chances, and by making tentative use of mathematical chances for purposes of illustration. On the one hand, there is the situation in which there is a small chance of a large gain and a large chance of a small loss. On the other, there is the situation in which there is a large chance of a small gain and a small chance of a large loss. (It should be understood that the chance-taker can gain only what he does not already have, and that he can lose only what he does already have. Thus, as the terms are used below, the fortune-hunter whose proposal of marriage is rejected by the heiress does not "lose" a fortune, and the heiress in turn

does not "gain" a fortune.) These two types of chance are illustrated by lotteries.

To take a simple form of lottery, assume that we have a wheel with an indicator which, whenever the wheel comes to rest after a spin, points to some one number in the series 1 to 10, inclusive. With each spin of the wheel, the operator (commonly called the "banker") obligates himself to pay 50 cents to any player who correctly designates in advance the number on which the indicator will stop. Assume, for the moment, that it costs a player 5 cents to hold one number, to take one chance. From the standpoint of the *player*, there is a small chance of a large gain (1 chance to 9 of winning 50 cents), and a large chance of a small loss (9 chances to 1 of losing 5 cents). From the standpoint of the *banker*, however, there is a large chance of a small gain (9 chances to 1 of winning 5 cents), and a small chance of a large loss (1 chance to 9 of losing 50 cents). This assumes that the chance is priced at its "actuarial," or mathematical, value to the player and cost to the banker. But the fact is that the small chance of a large gain is regularly bought at more than its actuarial value. That it has a special attraction is proved by the popularity of lotteries. That the small chance of a large loss, on the other hand, is especially repugnant is demonstrated by the fact that insurance companies, as well as the operators of lotteries, can make money. In order to avoid such chances, businessmen, where they can, buy insurance at rates which are more than sufficient to cover the actual losses.

When we turn to the less definite chances of business, the main question is this: Which type of chance is predominant, in the opinion of businessmen? What mainly counts is the prevailing attitude of entrepreneurs toward their future chances. (Of course this is not necessarily the same thing as the prevailing character of past chances, even if this character were well known.) If the small chance of the large gain predominates and entrepreneurs typically act in advance as if this is so, it is reasonable to suppose that entrepreneurs overvalue their chances and that losses outweigh profits. But if the small chance of a large loss predominates and entrepreneurs typically act in advance as if this is so, we may fairly suppose that on the whole profits exceed losses. But in between these extremes there is room for all the difference between hindsight and foresight, between calm judgment and dramatic impulses, between accurate and unreliable appraisals of one's own judgment, between economic and other incentives. The truth seems to be that knowledge of business chances and businessmen is hardly sufficient to warrant conclusions about general tendencies toward either profits or losses.

Consequences of Profits

In our discussions of rents, interest, and wages, a distinction has been made between the consequences of paying and the consequences of the private receipt of payments. The payment of any of these prices has been defended on the general ground that it tends to economize the use of the corresponding agent of production. It tends to make the principle of opportunity costs work, to encourage an economical distribution of productive agents between different fields of production. But economic profits cannot be discussed in this fashion. They are never explicitly paid. They are, where they exist at all, always implicit. There is no open market for entrepreneurial services; for, although entrepreneurs buy the services of other agents, the owners of these other agents do not buy the services of entrepreneurs. When we deal, therefore, with the effect of profits on production, we deal with the private receipt of profit, not with the payment of profit. Further, the effects of the private receipt of profits on production mean the effects of the *obtainability* rather than the attainment of profits. This follows from the fact that there are no established rates of profits for different "grades" of entrepreneurship. What we wish to know, then, is whether the obtainability of private profits is justified as an incentive to useful service. And clearly the answer must depend on the source of the profits.

SOURCES OF PROFITS

The obtainability of private profits for the assumption of entrepreneurial risks, as described above, is necessary to our system of private risk bearing. Further, this system possesses one advantage over social risk bearing. It is conducive to experimentation with new arts of production. Public officials, by the nature of their jobs and their desire to keep them, are made conservative. They are hesitant to experiment with new appliances and methods. Under a system of public risk bearing, the chances that an invention or discovery will be tried out are about as great as the average boldness of the officials with whom the decision lies. Under a system of private risk bearing, however, there is usually some entrepreneur daring enough to "try anything once." Here the chances of a trial are about as great as the boldness of the boldest. This encourages experimentation, and progress is repressed unless those who run the risks successfully are allowed to take some profits. The profits of low-cost firms are in part a reward for the successful assumption of entrepreneurial risks. Although luck has much to do with superior location and superior methods, an important part is played, too, by the combination

of sound judgment and daring which it is fair to call excellent entrepreneurship. To illustrate, our captains of industry, in addition to being lucky, have been keen observers, good judges of their observations, and able organizers. Without going so far as to justify great private fortunes, there is much to be said for permitting the private receipt of some extra return for low-cost operation. It encourages efficiency.

Any unprejudiced study of the case for and against unregulated monopoly warrants the general conclusion that permitting the private receipt of profit from the monopolization of a standardized commodity amounts to offering a reward for the performance of an economic disservice. The profits of product differentiation present a less clear picture. Apparently profits should be obtainable from differentiation which is effected by actual improvement in the quality of the product. This is because a given successful improvement, although it temporarily puts the producer in a monopolistic position, redounds mainly to the benefit of consumers in the long run. But the eventual result tends to be the opposite of this if differentiation is brought about by mendacious or purely competitive sales promotion.

It is hard to justify profits whose source is shifts of demand caused by changes in legislation. They are largely in the nature of a reward for guesswork and luck. This is on the understanding that private interests do not actually control the legislation or have access to supposedly confidential information concerning it. In fact, the prospect of such legislation, since it does not lend itself to the exercise of entrepreneurial judgment, gives businessmen a strong inducement to exert pressure on public officials or to enter into collusion with them. The history of American tariff making illustrates the point. Moreover, the effects of luck or graft, as the case may be, do not stop with the immediate beneficiaries and sufferers. They tend to lower the morale of everybody who observes them. This fact alone would probably make the limitation of wartime profits imperative. Clearly large private profits and losses should not stem from policies which are assumed to be in the public interest. Where the profits cannot be prevented directly by price fixing, there is a case for taxing the profits and using the proceeds to offset private losses. Thus, profits occasioned by tariff changes might be taxed for the benefit of workers and investors of industries which are injured by these changes.

PROFITS AND UNEARNED INCOME

In many if not most actual cases, various sources of profits are intermingled. The profits of a given firm may be coming partly from monopoly, partly from the improvement of a product, partly from the

prompt adoption of an invention, partly from recent changes in governmental policy. This intermingling so blurs distinctions as to raise many doubts, and the entrepreneur should be given the benefit of every reasonable doubt. Thus some unearned profits will have to be permitted in order to avoid the danger of denying profits where they are earned. The same thing is true of rents and interest and wages. Such an element of "unfairness" is inherent in every complicated game which is conducted under any given set of rules. It is an unavoidable result of our being fallible. Nevertheless, the fact that there must always be some unfairness in the *application* of any rules does not mean that obvious unfairness should be incorporated *in the rules themselves*.

Rents, Interest, Wages, Profits, and the Rules of the Game

The private receipt of much unearned income is quite permissible under the existing rules of our economic game. The rules themselves sanction unearned increment from rent. They permit some businessmen to take large profits from products which are in strong demand through no merit of the businessmen. They permit unions to exclude millions of workers from their ranks. In fact, the rules are such that it is hard to see any very essential distinction between "property incomes" and "labor incomes." The services of some laborers, too, are in strong demand through no merit of the laborers. The possessor of a particular type of labor skill which happens to be in great demand is in fundamentally the same position as the owner of acres or machines for whose products there is an urgent demand. The very rules of private property, including judicial interpretation which is essentially a part of the rules themselves, deny equality of opportunity. They discriminate among men in securing sources of income. To many men they deny fair opportunity to acquire ability to increase their income.

PROPERTY AND THE FRANCHISE

As an obstacle to genuine democracy, private property has a long and blotted record. During early American history, the right to vote was limited frankly by property qualifications. In the Massachusetts charter of 1691, the franchise was withheld from men not possessing either 40 pounds sterling of property (equivalent to about \$2,000 today) or land bringing in 40 shillings a year. Until shortly before the Revolution, a Virginian could not vote unless he owned a house and lot, or 50 acres of improved land, or 100 acres of wild land. After the Revolution, the state constitutions used property qualifications of one kind or another to prevent probably three-fourths of the white men in the country from

voting. There were graded qualifications. In voting for the Massachusetts Senate, a rich man counted for several poor men. To vote at all in this state, one had to have 50 acres of land; to be a representative, 100 acres; to be a senator, 300 acres; to be governor, £1,000 of real estate.

PROPERTY AND THE CONSTITUTION

The adoption of the Constitution did not end the fight of property against democracy. As Woodrow Wilson said: "The federal government was not by intention a democratic government. In plan and in structure it had been meant to check the sweep and power of popular majorities . . . had in fact been originated and organized upon the initiative, and primarily in the interest, of the mercantile and wealthy classes." The Constitutional Convention repeatedly refused to entertain a motion to include a bill of rights in the Constitution. Hamilton, Dickinson, Madison, and Morris tried to have the franchise limited to freeholders. When finally ratified despite the bitter opposition of the small-farmer class, the Constitution contained extraordinary safeguards of wealth against the whims of the popular will.

It provided that property is not to be taken, by the legislature or executive of either the federal government or the individual states, without "due process of law" (judicial inquiry into the public necessity involved) and without full compensation. It provided also that no state should pass a law impairing the obligation of contracts. Had public opinion demanded it, this protection might have been modified by the slow process of Constitutional amendment. But public opinion did not demand it. Cheap land long preserved economic democracy by making property easy to secure. At the same time capital was so scarce that, instead of being surrounded by restrictions, it was courted by various devices. Among the devices was the corporation.

PROPERTY AND THE CORPORATION

The position of corporate property came to be strengthened from two directions. The decision in the Dartmouth College case, in which New Hampshire tried to revoke the charter of the college, had the result of establishing the charter of a corporation as a contract. The Fourteenth Amendment, forbidding states to pass laws treating different persons unequally, proved a great convenience to the corporation when an 1882 decision of the Supreme Court ruled the corporation a "legal person." The corporate person, whose charter is a contract, is fairly well protected against capricious popular designs on its property. Private property in general, and corporate property in particular, is so well entrenched in

the United States that only three things can change it—a Constitutional amendment, a reversal by judges of their former opinions, or a revolution.

That the legal status of private property has given property owners a certain self-assurance is illustrated by the Pennsylvania anthracite strike of 1902. A coal famine had resulted from the struggle between the miners, whom John Mitchell was organizing, and the monopoly's operators, who insisted on running "their own business" in their own way. During the negotiations, Operator Baer stated that the miners and the public ought to let the matter be settled by "the Christian men to whom God, in His infinite wisdom, has given the control of the property interests of the country."

PRIVATE PROPERTY NOT IMMUTABLE

This divine right of owners is closely related to the idea that private property is an immutable law of nature. Of course it is not. The name "property" has not always stood for the same things.⁴ In many Asiatic countries, before European "reforms" were introduced, land belonged to communities, not to individuals. By Jewish law, immovables were supposed to be returned every Sabbatical year to the common stock for redistribution. At one time or another, there have been private property rights in slaves, and in public offices. Private land tenure, when it was substituted for community tenure, belonged almost exclusively to the military class until the gradual improvement in public security made industrial tenures possible. The things over which property rights are exercised have varied; and the classes exercising the rights have varied. Further, the rights themselves have varied in number and degree, the right of bequest being one of the latest to receive legal recognition. Thus "natural law" is no argument against change, for there is no such law. Change is purely a question of the public good.

The abolition of private property is not an issue in the United States. But what is an issue is the modification of private property rights. Rights have been extended where they should have been withheld. Private control of natural resources is an example. They have been withheld where they should have been extended. The laborer's lack of a right to security in his job is an illustration. Private property is defended mainly on the ground that it protects the individual in the fruit of his labor and saving. "Learn to labor, and to wait." In practice, it frequently protects men in the fruits of the labor and saving of other men. Where it is supposed to hold a fair balance between human beings, it fosters inequality of oppor-

⁴ See John Stuart Mill, "Chapters on Socialism," in *Fortnightly Review*, XXXI (1879), 526-30; cited in L. C. Marshall's *Readings in Industrial Society* (1919), pp. 955-57.

tunity, thus greatly weakening the connection between exertion and reward.

INHERITANCE

The most impressive single source of unearned income maintained by the existing rules of the game is the inheritance of private property. Wealth unearned by its original receivers would lose much of its power to cause inequality if it could not be left to heirs. On the other hand, wealth actually earned by its original receivers becomes a powerful source of inequality when bequeathed to heirs who did not earn it. It makes no great difference to an heir how wealth was secured. Whether it came from unearned increment or unearned profit, he gets it. Whether it came from efficient work or successful risk bearing, he gets it. Whether earned or unearned in the first place, he gets it. Neither need he be much concerned about its form. Most forms of wealth are now easily transmissible. Let the wealth be in city real estate or in factories, in oil or tobacco, in steel or aluminum. In any case, the heir can convert it into gilt-edged securities and clip coupons at his ease. Or, if he wishes to be active in business, he has all the enormous advantage which wealth and connection confer.

There is little point in either sweeping condemnation or sweeping approval of private property. Private property is not a single and invariable thing which must be wholly accepted or else wholly rejected. It is a "bundle of rights": rights of use, of lease, of sale, of gift, of bequest. The trouble lies in the abuse of certain property rights. Like Christianity and democracy, private property should not be condemned until it has been fairly tried. If half the ingenuity used in making it aggravate inequality had been employed in rendering it consistent with democracy, it is doubtful that the situation discussed in the next chapter would be the reality that it is today.

PROBLEMS

1. Explain why the term "business profits" is broader than the term "economic profits." Why the term "economic profits" is broader than the term "entrepreneurial profits" (that is, "risk bearing profits," or rewards for the successful assumption of entrepreneurial risk).
2. Illustrate the profits of the low-cost firm. Are such profits partly the result of entrepreneurial judgment and daring? Explain and illustrate. Are they partly the result of luck? Explain and illustrate.
3. Are the profits of simple monopoly properly to be classified as entrepreneurial profits? Explain.
4. Are the profits of product differentiation the same thing as the profits

of simple monopoly? Does it make any difference whether you are considering the "short run" or the "long run?" Explain. Does it make any difference what methods are used to differentiate a product? Explain.

5. Do great changes of demand which are caused by governmental action give rise to risks? Illustrate and explain. Are the risks in question characteristically entrepreneurial risks? Explain.

6. Discuss this statement: "Statistical evidence justifies the conclusion that American corporations in general make economic profits in the long run, and that these profits are entrepreneurial profits."

7. Discuss this statement: "Men cannot conduct business for their health. They must make a living. Therefore they must make economic profits."

8. Discuss this statement: "Men will refuse to assume risk unless they realize economic profits."

9. An ordinary lottery has two essential characteristics. First, it affects the distribution of a *given* amount of wealth. Second, it is so arranged that each individual chance is a small chance of a large gain to the player and a small chance of a large loss to the operator, or banker.

(a) Explain and illustrate.

(b) Can you think of any reasons why the banker should insist upon, and succeeding in getting, more than the "actuarial value" of the chance to the player? Discuss.

10. A situation involving entrepreneurial risk typically differs in two ways from a lottery situation. First, the *production* of wealth, as well as its distribution is affected. Consequently the entrepreneur's gain or loss does not automatically occasion an offsetting loss or gain, respectively, to somebody else. Second, chances cannot be nearly so accurately estimated as in the case of the ordinary lottery.

(a) A man decides to spend a year prospecting for gold in the Rocky Mountains. Describe the sort of chance he takes. Is it a small chance of a large gain? Explain. If this is the case, would you expect gold prospectors to secure, in general and in the long run, less or more than they could get by working at something else? Explain.

(b) Orange growers in Florida and California have a small chance to suffer a large loss from the freezing of their trees. Suppose that in other respects their chances are similar to the chances of other types of business. Would you expect the rate of return to orange growers, in the long run, to be below the general level or above it? That is, will the small chance of the large loss cause the investment in the industry to be too large, or will it cause this investment to be too small?

(c) "If businessmen typically believe that their businesses are characterized by the small chance of the large gain, the tendency is for losses to exceed profits. If, on the contrary, they typically figure on the small chance of a large loss, the tendency is for profits to exceed losses." Discuss this statement.

(d) Do you believe that any safe generalization can be made about a long-run tendency for businessmen in general to realize profits, or to suffer losses, as the case may be? Explain.

11. Discuss the relation between unearned income and: (a) entrepreneurial

profits; (b) the profits of low-cost firms; (c) the profits of simple monopoly; (d) the profits of product differentiation; (e) profits occasioned by war or tariff legislation.

12. Discuss this statement in relation to the status of private property: "As far as the personal distribution of our country's income is concerned, the application of any general rules governing economic relationships will occasion some unfairness; but this fact is no excuse for incorporating unfairness into the rules themselves."

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XXVII

ECONOMIC INEQUALITY: *THE PROBLEM*

The Law, in its majestic equality, forbids the rich as well as the poor to sleep under bridges, to beg in the streets, and to steal bread.—ANATOLE FRANCE.¹

IT OFTEN happens that a picturesque personality becomes the symbol of a persistent social problem. So it was with the late Senator Huey Pierce Long. The "Kingfish" of Louisiana died at the hands of an assassin, but the moral of his career, like the soul of John Brown, goes marching on. This moral lies not so much in the violent end of the career as in the circumstances which bring "dictators" to power. As is usual in such cases, we find among the circumstances the fact that Long possessed unusual and even bizarre attainments in the realm of speech. When he spoke to the people he used the American Language. During a senatorial campaign in Louisiana, for example, he assailed his opponents as follows:

"They'll tell you that what you've got to do is tear up Longism in this state. All right, my friends—get you a bomb or some dynamite and blow up that building yonder [pointing to the new Capitol]. That's a good place to start. Then go out and tear up the concrete roads I've built. Get your spades and your shovels and scrape the gravel off of them roads we've graveled, and let a rain come on 'em. That'll put 'em back like they was before I come. Tear down the new buildings I've built at the University. Take the money away from the school boards that I've give 'em to run your schools. And when your child starts out to school tomorrow morning, call him back and snatch the free school books out of his hand that Huey Long gave him. Then you'll be rid of Longism in this state, my friends, and not till then."²

Yet in his command of the popular tongue Long had many a worthy rival who never rose from obscurity. Not necessarily the soundness of his

¹ Cited by John Cournos, *A Modern Plutarch* (1928), p. 35.

² Webster Smith, *The Kingfish*. New York: G. P. Putnam's Sons, 1933, p. 271.

views but rather his command of popular ideas, and one in particular, explained his amazing climb to the seats of the mighty. Devotion to scientific truth was never his especial religion. It was not true, for instance, that he could make "every man a king" by giving \$5,000 a year to every family in the United States. That would have required at least twice as much income as the country had. His genius lay in telling people what they wanted to hear. He knew people enjoy believing that economic inequality explains the unsatisfactory lot of the common man. His progress from poor farmer to Governor of Louisiana, from Governor to United States Senator, and his threatened ascent to greater heights, was made possible by essentially one thing—his attacks on the wealthy. He proposed to "share the wealth." To some this meant the abolition of poverty. To others it meant getting even with the rich. In any case it meant something highly desirable to millions of people.

In the United States there exist side by side fifteen million persons living in poverty and a number of persons enjoying incomes of at least a million dollars a year. This fact is a standing invitation to trouble. To be sure, conditions were worse at the peak of Long's popularity, which coincided with the trough of the Great Depression. Though the million-a-year people were less numerous, the number of the poverty-stricken was much greater, probably twenty to twenty-five million. But depressions are recurrent, and there is never a time when hardship need grow much more widespread in order to evoke new Longs, followed by millions of persons desperate enough to vote themselves out of any substantial control over their own lives. Always a serious problem, economic inequality is capable of becoming in times of general misfortune a grave threat to political democracy itself.

How Our National Income Is Distributed

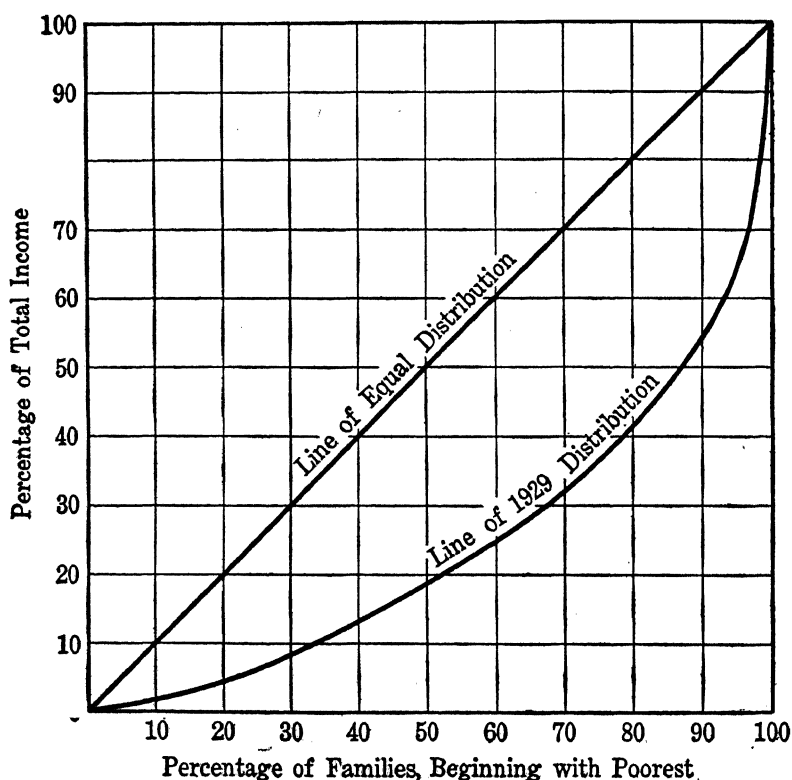
Our national income for any given year consists of our net economic product. That is, it consists of the value of the goods produced less an allowance for "depreciation," for the values used up in the process of production. The 1929 income, the largest on record until recently, was about \$81,000,000,000.³ Since the population was approximately 126,000,000, the per capita income was roughly \$640. There were some 27,000,000 families, and around 16,000,000 persons living outside of families. If we put the per capita income of the latter group at \$1,000, making \$16,000,000,000 for the group, we have \$65,000,000,000 left for the family group. This is an

³ Production goods added to the existing stock during the year are here included in the annual national income. In estimating consumable income, at a later point in the discussion, a deduction is made for "capital extensions." The facts cited are based mostly on the Brookings Institution report, *America's Capacity to Consume* (1934).

average of about \$2,400 per family. It would be a fairly comfortable income for the typical family—if families typically got it. Let us see how many got it.

INEQUALITY IN 1929

Some 18,000,000 families, or two-thirds of the total number, received less than the average. If the majority got only a little less than the average, and the remainder only a little more, the situation would still be healthy. But this was not the case. Instead of getting nearly two-thirds of the total income, the families below the average got only about one-third



of it, the remaining two-thirds of the income going to the other third of the families. Going farther we find the picture still less attractive. Beginning with the poorest families, we must include over $\frac{8}{9}$ of all families in order to account for $\frac{3}{5}$ of the total income. Beginning at the other end of the scale, the richest thousand families, or less than $\frac{2}{5}$

of 1 per cent of all families, received over 4.7 per cent of the income; and 10 per cent of the income was taken by less than 1 per cent of the families.

A somewhat clearer picture of the situation as a whole is presented by the accompanying diagram. Percentages of the total number of families are indicated along the horizontal dimension, and percentages of the total income along the vertical. Had the distribution been even—had 1 per cent of the families received 1 per cent of the income, had 2 per cent of them received 2 per cent of it, and so on throughout—the actual distribution would be represented by the straight line running diagonally from the lower left corner to the upper right corner. Instead of this straight line, we have what is called a “Lorenz curve.” We find that the poorest 10 per cent of the families got less than 1 per cent of the income, that the poorest 20 per cent took about 2 per cent of it, and so on. On the other hand, the richest 10 per cent got 45 per cent of the income (the richest 5 per cent alone receiving a third of the nation’s total), and the richest 20 per cent took almost 3/5 of it. One-seventh of the families took half the income, and the other six-sevenths got the remaining half.

PERSISTENT INEQUALITY

This was for 1929. But the condition is chronic. In England the distribution was almost the same in 1913 as in 1880.⁴ Inequality is somewhat more pronounced over there than in America because the factors making for inequality have operated longer. However, the difference is slight and the change is very slow; what little change occurs is, apart from such corrective measures as progressive taxation, in the direction of a still more uneven distribution. Inequality is both extreme and persistent. We now have to consider its economic and social consequences.

The Case for Inequality

The case for inequality runs all the way from the most illogical and trivial arguments to those which at least throw much light on the problem. But the former should be included in a review, because it is probable that they have quite as much influence as the latter do.

“MAKING WORK”

Inequality is often defended on the ground that the expenditures of the rich set up a demand for goods and services, thus supposedly “mak-

⁴ See A. L. Bowley, *The Change in the Distribution of the National Income, 1880-1913* (1920).

ing work" for the poor. This argument, as we learned in Chapter IX, comes from looking at one thing and overlooking another. While it is true that the expenditures of the rich set up a demand, it is also true that the expenditure of similar amounts by a larger number of persons would set up just as much demand.

CUSTOMARY INCOME

We sometimes hear it argued that transferring wealth from the rich to the poor would do more harm than good because both classes are accustomed to their standards of living. It is not right, according to this argument, to deprive the wealthy of the standard of living to which they are accustomed, since the poor are unfitted to understand the refinements which the wealthy enjoy. The argument confuses the issue. There is no question about the force of habit. The question is the desirability of different habits. To say that the poor should not have what they are not equipped to appreciate is like telling the boy that he must not go near the water until he learns to swim. To have any force the argument would have to be based on the proposition, not that habits differ, but that superior heredity entitles the rich to their higher standard of consumption. The part played by heredity will be considered below.

DISPOSAL OF ESTATES

Some time ago the student son of a manufacturer confronted the writer with this argument. "If you even up distribution," he demanded, "what is to become of things like our house [a capacious affair providing five rooms for each member of the family] and our grounds? Nobody would have enough income to keep them up. Surely you don't propose to just let them rot?"

The answer is that what would become of these things is about the same as what becomes of anything when the demand for it falls sharply. If it is good for something else, it is put to some other use. Possibly large residential buildings could be used for hospitals, libraries, apartments, sanitariums. But if a redistribution of income left them literally good for nothing, then it would be uneconomical to maintain them at all, just as it was uneconomical to maintain carriage factories after the demand for carriages disappeared. Scrap them, if their scrap value warrants it. If not, "just let them rot," as our government let a lot of superfluous ships rot after the First World War. Granted that this is a waste, it is still fair to inquire what causes the waste: the change of the situation, or the fact that the situation was allowed to exist in the first place. The real question is whether the change would be such as to justify the rotting.

PHILANTHROPY

The argument is common that the ironing out of inequality would stop the donations which the wealthy now make for educational and humanitarian purposes. It is pointed out that almost any victim of hard luck, if his plight is publicized without whining for "justice," readily receives help from the well-to-do. It is inquired what we would do for charity, and for things like Carnegie libraries, Guggenheim fellowships, and the University of Chicago, if inequality were much reduced. Yet here we have a rather obvious confusion of thought. Instead of being an argument *against* redistribution, this is an argument *for* redistribution. In other words, it is a plea for *voluntary* redistribution. Generous gifts by the wealthy provide education for many people who cannot meet the full cost of it. Nor is it the very rich alone who make such gifts. In private colleges, for example, tuition falls far short of covering the cost of education; and deficits are made good largely out of gifts by many alumni. This is voluntary redistribution, and clearly the merits of voluntary redistribution do not constitute an argument against redistribution itself.

EFFECTS ON POPULATION

An argument which is worth more serious attention runs to the effect that a transfer of wealth from the rich to the poor would have harmful results with respect to both the quantity and quality of population. The idea is that the poor, upon receiving the wealth, would increase their numbers until their standard of living fell back to the former level, while the quality of population would suffer because the increase of numbers would pertain mostly to the lower classes.

The first part of the argument is almost certainly incorrect. As nearly as can be told, people typically use only part of additional income to have more children, the remainder being used to raise the standard of consumption. At the same time the correlation between income and numbers is stronger where incomes are moderate than where they are large. Two conclusions are probably fair: first, that the increase of numbers among the receivers of the income would be greater than the decline of numbers among the losers of the income; second, that the increase of numbers in the former group would not be large enough to depress the standard of consumption to the original level.

The effects on the quality of population are doubtful. Owing to the fact that economic inequality causes inequality of opportunity, we cannot measure the hereditary superiority of the rich, or even be altogether

sure that there is any such superiority. If it nevertheless be assumed that the native ability of the rich is distinctly greater than that of the poor, it still does not follow that the quality of the population would be hurt by the equalization of income. As the increase of population would refer mainly to the poor, and as the poor constitute much the larger group, the chief question is the effect on the quality of the poor. This quality depends on two things: characteristics inherent from birth, and characteristics imparted by environment. Probably the acquired characteristics would be permanently improved, since environmental advantages are handed down from generation to generation. It is possible that the native capacity of the poor would be improved, too. That is to say, the increased numbers could not come from the less intelligent element of the poor, for this element is already close to the biological limit of speedy reproduction.

INEQUALITY INEVITABLE

Not so much because of its own merit as because of its relation to the whole problem, the argument that inequality is inevitable is worth consideration. "Distribute wealth equally tomorrow," we are told, "and it would not be long before differences in ability made inequality as pronounced as before." In support of this conclusion it is commonly pointed out that inequality is roughly the same from one Western country to another, and that it does not change much as time goes on. The inference is, of course, that the distribution of income conforms with the distribution of ability and is explained by it. What was said above about the population problem suggests reasons for being skeptical of this argument. Ability is dependent in part on environment. And it must be remembered that the different regions and periods in question are characterized by strongly similar man-made institutions. In particular, the laws of private property are much the same from country to country and from period to period. Not only could men change these laws, but they could change them in such a way as to make extreme inequality impossible.

INEQUALITY UNIMPORTANT

Although it sometimes makes use of exaggeration, the argument that inequality is unimportant is a useful antidote to a popular misconception concerning poverty. If more widely understood, it would make the going harder for such skilled demagogues as Huey Long. It contends that low production, not uneven distribution of the product, mainly explains the hard lot of the common man; that the really impressive thing about income statistics is the poverty of mankind as a whole.

To illustrate—even in America, easily the richest of countries, it is necessary to include all but a handful of the wealthy in order to get as far as the families which have really respectable incomes. We have to go clear up to 25 million out of our 27 million families to take in the incomes of typical college teachers. And we should have to include another 1.6 million families to account for the elderly professor in a first-rate college. To be sure, his family is “rich.” It receives better than double the general average of family income. Yet this academic income, comparatively so large that only a few attain it, is around \$5,000 a year. Surely it is like being the richest man in the poorhouse. And the *really* rich are so very, very few that their large incomes could do little to improve the lot of the numerous poor. Thus, according to this argument, one who has the interests of the poor at heart should forget inequality in order to emphasize the more pressing problem of increasing the national output.

Nevertheless, a more even distribution of a given national income would be decidedly helpful to the majority of families. (Of course this is on the assumption, which will be investigated in Chapter XXVIII, that the reduction of inequality need not seriously reduce the income which is to be distributed.) For example, deduct from the 1929 income \$16,000,000,000 for the persons not living in families, and another \$4,000,000,000 for additions to capital equipment. Enough is left to give the 27,000,000 families about \$2,200 apiece. But, as we have seen, some two-thirds of the families got less than this, and most of the two-thirds got much less. During less prosperous times, the money income of the nation is lower, while prices are hardly enough lower to make the money income buy as much as in 1929. Yet, on an average of good times and bad, the annual money income is enough to provide each family with not far from as much goods as \$2,000 would buy in 1929. As this is considerably more than most families get, it is exaggerating to say that uneven distribution is unimportant.

REWARD OF MERIT

There is serious exaggeration also in the argument that uneven distribution is justified because the wealthy “deserve,” or “earn,” what they get. Obviously income which is due to inherited wealth must be ruled out. Apart from inheritance, a large personal income is usually the result of producing something which is in strong demand. To test the proposition that the income is earned, we must investigate two things—the conditions explaining the demand, and the conditions explaining the production which satisfies the demand.

By way of illustration, consider the large income of a motion-

picture actress who capably satisfies the yearning of millions of persons for reels of lugubrious love. It is clear that the actress does not "deserve" to have people want what they do. She would not fare so well if their tastes ran to industrial rather than romantic pictures, or to cookery instead of acting. Thus her moral claim to the income is only as good as her moral claim on the ability to satisfy the demand. Perhaps she has worked hard to acquire the knack of drooping and crooning in just a certain way as she states that she is so tired or that she wants to be alone. Yet this technique would not get far if she were homely, and comeliness is a matter mostly beyond her control. As an ethical justification for large income, even "ability" must be founded on some personal effort or sacrifice of a high order.

INCENTIVE TO PRODUCE

There is no doubt that the prospect of receiving a larger income serves as an incentive to producing more wealth. Make a practice of taking too much away from producers and producers will find leisure more attractive than additional production. As an argument for some degree of inequality, this proposition surely holds. But as a defense for the present degree of inequality it certainly exaggerates. Wealth is not the only inducement to economic effort, and even the desire for wealth does not operate so simply that effort must vary *proportionately* with income.

Men sometimes have such a strong attachment to creative activities that they all but ignore the question of income.⁵ To pursue his researches in physics, Michael Faraday gave up the opportunity to make \$20,000 a year on lectures, and cheerfully lived on a tenth of this amount. He remarked: "I cannot afford to get rich." Louis Pasteur neither sought nor secured financial profit from his discoveries about bacteria. Joseph Lister gave up control over an Edinburgh hospital in order to crusade against the hostility of the English medical profession to the use of disinfectants in surgery. Thomas Huxley lived practically in penury, and kept postponing his marriage, in order to go ahead with research. James J. Hill placed fidelity in the Great Northern system so much above personal profit that he turned over to shareholders millions of dollars which he might have taken for himself.

Even if we stress the acquisitive side of man's nature, the possibilities of paring down inequality without hurting production are still great. Ignore, for the moment, the fact that the surplus incomes of the rich

⁵ For fuller discussion of the following cases, and others, see Paul H. Douglas, "The Reality of Non-Commercial Incentives in Economic Life," in R. G. Tugwell (Ed.), *The Trend of Economics* (1924), Chap. V.

go largely to saving. Suppose, in order to make the "greed" argument as strong as possible, that these incomes go largely to consumption. As income increases, the desire for additional consumption becomes more and more a desire for additional prestige. Men resort to ostentatious spending in order to advertise their success. But their gallery does not consist of poor men. To wealthy persons, as Eugene O'Neill so well suggested in *The Hairy Ape*, stokers scarcely exist. The big spender wants to spend, not more than poor men, but more than other rich men. However, his privilege of doing so can be preserved while still paring down his personal income. It can be done by reducing the incomes of all the rich in such a way as to leave the individuals of the class in about the same *relative* positions as before.

SAVING

Perhaps the strongest argument in support of inequality proceeds from the fact that inequality fosters the accumulation of capital. There is no disputing that capital is a vital necessity, and that capital is the result of saving. Capital goods come into existence because certain money income is offered for them instead of being spent for immediate consumption goods. But, as long as we rely on voluntary saving, the money demand for capital goods is increased by unequal distribution.

Saving grows more than proportionately to increases of personal income. A family of four with a \$2,000 income is not likely to save much. After providing itself with essentials it has little if any surplus which can be saved. A family with twice this income can easily save more than twice as much, and a family with \$8,000 can far more than double the saving of our \$4,000 family. And willingness to save increases with the ability to do so. As income rises, people convert larger and larger percentages of present income into investments which yield perpetual income, since perpetual income becomes increasingly attractive in comparison with present consumption. In this way they purchase security, prestige, and prolongation of power. It is not unusual for wealthy persons to save from half to nine-tenths of their income. Were personal distribution even, the present argument runs, the supply of capital would decline drastically, and production would be correspondingly decreased.

Certainly the effects on saving must be taken into account when we are weighing the advisability of reducing inequality. Of course public saving might be used to fill the gap left by the decline of private saving. As we saw in Chapter XXIII, public saving accounts for most of the real capital accumulated in Soviet Russia, the authorities putting resources directly into the construction of production goods. Our own government

might provide large capital extensions by investing the proceeds of taxes or of compulsory "loans" which bore interest but had no date of maturity. Such an expedient might provide the government with a useful means of control over booms and depressions. For the present, however, let it suffice to note that the "saving" argument, as actually employed by the defenders of inequality, usually succeeds in exaggerating because it overlooks the following facts.

First, unequal distribution is not the only thing contributing to voluntary private saving. Any factor tending to increase the national income faster than national population tends also to increase per capita saving. Even if distribution were comparatively even, inventions and discoveries would still encourage production and saving. Second, voluntary saving is not the only form of private saving. Much of our saving takes place as a result of the fact that corporation officials, over whom the majority of the stockholders exercise little control, apply profits to capital extensions instead of disbursing them in dividends. Third, the supply of capital is not the only thing on which productive efficiency depends. Efficiency depends also on the health, morale, and training of laborers, all of which it is fair to assume would be improved by a lessening of economic inequality. In short, an increase of "human capital" might go far to offset a decrease of capital in the ordinary sense.

The Case Against Inequality

In considering the case against inequality, little attention is merited by arguments based on envy or on the desire to get something for nothing. The proposition that the well-to-do should be discomfited because they are wicked is not to be taken seriously. Nor is the fact that some people now get income without work a good reason for letting others do so. On this understanding, the case against a highly uneven distribution of national income is simply stated. Extreme inequality is a cause of poverty, it wastes productive power, it is unsportsmanlike, and it is dangerous.

POVERTY

Inequality, as we have already seen, is an important cause, if not the most important, of the low standard of living of most families. The transfer of income to the submerged tenth of our population need not be defended on the ground that poverty begets vice and inefficiency, although this is certainly so. It would be better defended on the ground that poverty is in itself too offensive to a sense of decency to be tolerated. What this means can only be suggested. We might, however, take our

suggestion from B. Seebohm Rowntree's description of how a family on a certain "standard of living" must behave, and then consider whether inequality is worth the cost:

They must never spend a penny on railway fare or omnibus. They must never go into the country unless they walk. They must never purchase a halfpenny newspaper or spend a penny to buy a ticket for a popular concert. They must write no letters to their absent children, for they cannot afford to pay the postage. . . . The children must have no pocket money for dolls, marbles, or sweets. The father must smoke no tobacco, and must drink no beer. The mother must never buy any pretty clothes for herself or for the children. . . . Should a child fall ill, it must be attended by the parish doctor; should it die, it must be buried by the parish. Finally, the wage-earner must never be absent from his work for a single day. If any of these conditions are broken, the extra expenditure involved is met, and can only be met, by limiting the diet; in other words, by sacrificing physical efficiency.⁶

This was merely "secondary" poverty in an English city. The conditions were those which had to be observed to keep the family from "primary" poverty. It is a fair description of the meaning of poverty everywhere. Those who believe that poverty stimulates ambition, or that the poor do not mind it, might read this, and think again.

WASTE

The Duke of Windsor, formerly King of England, expressed amazement that the luxury of the steamer "Queen Mary" could exist at the same time as the slums. Yet this is only the logical result of extreme inequality. Luxuries are produced in place of essentials because production follows demand and demand follows income. If it is wasteful for laborers to buy automobiles, or shopgirls to purchase finery, before providing themselves with adequate food and shelter, it is no less wasteful for society to put luxuries for a few ahead of necessities for many. Inequality causes wasteful consumption and correspondingly wasteful production.

SPORTSMANSHIP

Economic competition is commonly called a "game." And the implication is that the equalization of incomes would take the fun out of it. This makes it worth while to inquire what kind of game economic competition is.

A game, if it is to be a good one, must possess certain qualities. There must be an element of uncertainty: the outcome must be in rea-

⁶ *Poverty—A Study of Town Life* (1903), pp. 133-34. By permission of The Macmillan Company, Publishers.

sonable doubt. There must be an element of skill: the players must be able to influence the outcome by exerting intelligent effort. The game must be fair: where the players are very unevenly matched, "handicaps" must be used to offset the difference. Finally, results must follow exertion with reasonable promptness.

But it requires no rare insight to perceive that economic competition is not this sort of game. There is too little uncertainty about the outcome. With occasional upsets, which grow more and more rare as time goes on, those who enter the game poor come out poor. Instead of compensating for inferior skill, the rules favor the "better" players. The man who has both wealth and native ability enjoys an enormous advantage over the man who possesses only native ability; and inherited wealth, and the polish and pull that go with it, count the same as other wealth. The "game" of economic competition is not a game which is conducted in the best traditions of sportsmanship.

"RADICALISM"

Extreme inequality is an invitation to unwise legislation, and even to violence. Those who hold that there are "dangerous radicals" in America are right. They are usually mistaken, however, about the identity of the dangerous radicals.

A "radical" has been defined as one whose neck stands in jeopardy until "conservatives" decide to steal his ideas. In Thomas Jefferson's time a Democrat was a radical, while today a Jeffersonian Democrat is a conservative. For practical purposes, however, a radical is one who advocates policies which are far out of line with current realities. Ahead of the times or behind them, what counts is being far out of line. Society changes slowly, but it never stops changing. Attempts either to shove it forward or to hold it back cause maladjustment and hardship. In reality, the radical is one who tries to do either the one or the other.

A "dangerous" radical is simply an *influential* radical. Our "red" radicals—our avowed communists, syndicalists, and other left-wingers—are hardly dangerous, since they are unable to stir up more than a feeble interest in their views. We do have, however, two general types of influential radical; and they inadvertently work together. The one is represented by the person, either the demagogue or the visionary, who, gifted in the arts of public persuasion, takes advantage of general hardship to popularize unworkable changes. The other is represented by the "reactionary" who resists orderly change. It is one of his most rigid tenets that nothing substantial shall be done about economic inequality. It is when the latter plays into the hands of the former, as he obviously does during

severe depressions, that inequality becomes the most serious threat to democratic institutions.

Goals for Redistribution

If we propose to make the personal distribution of national income less uneven, what do we hope to accomplish by our action? What is a proper goal for redistribution? The eventual object of social policy should be that of maximizing activities which develop and ennoble the human personality. Taken broadly, the object is to extend the scope of the creative impulse which lies in human nature and to decrease the scope of the essentially acquisitive or destructive impulses. Thus the relations between the production of wealth and its personal distribution should be such as to provide the fullest possible play for creative activities. Stated more loosely, in terms of more immediate ends which we seek in order to approach the final objective as closely as we can, the appropriate goal is that of evening up personal distribution with as little injury as possible to production. Strictly in economic terms, the proper long-range objective would be reached at the point where improvement in the consumption of the national output was just offset by the impairment of production. This indicates the extent and direction of desirable change. Meanwhile it is necessary to determine on what may be called a "practical" objective, that is, a program capable of enlisting popular support here and now.

NEED, EQUALITY, AND SACRIFICE

The ideal objective is probably set by the principle, "From each according to his ability, to each according to his *need*." Already this principle plays an important part in private philanthropy and in public expenditures. It is superior to the principle of dividing up *equally*, since the needs of different families and individuals are not equal. It is better also than paying people according to their *sacrifices*, because many sacrifices are useless and should not be encouraged by payment. It might be put into immediate operation if people in general felt as Faraday and Pasteur and Lister did. As matters actually stand, however, the principle enunciated by Christ would not work, for we have not yet carried Christianity to such an extreme that we are willing to give our best in return for nothing but what we need. Or, to put the conclusion the other way, as Mark Twain did, our needs are notably extensible, everybody seeming to need at least 10 per cent more than he already has. At present we are unprepared to accept the ethics of the Christian ideal. We require an objective more consistent with popular conceptions of fairness.

"EARNINGS"

It is safe to say that the normal American does not object to mere inequality. He is more than willing that people should get large incomes because of their ability to produce what happens to be strongly demanded. He is not even censorious about the character of the demand. Who is he to say that people "ought" not to want cigarettes, or beer, or romantic motion pictures, or ball games, or prize fights? Indeed, he is disposed to the conclusion that his life would be pretty dull if he never did anything which he "should" not. His protests are directed almost altogether at what he considers extreme cases of unearned income. By "earning" an income he means working at something useful, and by "something useful" he means anything which is not obviously wasteful or crooked.

His general ideas of unearned income were probably expressed well enough by various American paragraphers and journalists during the Great Depression. For example, he is skeptical of windfalls:

An Oklahoma newspaper editor is about to retire with a \$100,000 fortune, which is due to his industry, faithfulness, and ceaseless toil, and the fact that he was paid \$100,000 for oil discovered on a piece of worthless land he owned.—*Arizona Record*

He objects to big bequests:

A successful man is one who gathers a fortune he doesn't need to leave to people who don't deserve it.—*Publishers Syndicate*

He suspects that wealth proves unduly helpful in securing lucrative positions:

On December 1 [1932], Secretary Mellon's son went to work in a Pennsylvania bank as a clerk, and in January he was made a director. America still offers opportunity to a young man who has the stuff.—*Southern Lumberman*

He is disturbed by graft and inequality before the law:

Getting money under false pretenses is a crime unless you are big enough to sell \$1,000,000 of stock in a \$40,000 business.—*Muskogee Phoenix*

[Of New York City politics in the Walker regime] Strange that a man who can't remember where he got \$150,000 never forgets where he put it.—*Boston Herald*

He is beginning to wonder about advertising:

[The famous characters of advertising in the 1920's—and more of the same in 1930's] The man whose conversation [founded on perusal of the Elbert Hubbard Scrap Book] so dazzled the company that the envious dinner-coated bystanders could only breathe in amazement, "I think he's quoting from Shelley" . . . The poor couple who faced each other in humiliation after the guests were gone, the wife still holding the door knob and struggling against her tears, the husband biting his nails with shame. (When Your Guests Are Gone—Are You Sorry You Ever Invited Them? . . . Be Free From All Embarrassment! Let the Famous *Book of Etiquette* Tell You Exactly What to Do, Say, Write, or Wear on Every Occasion.)—FREDERICK L. ALLEN ⁷

Nor need he be a radical to object to attacks on the Americanism of anybody wanting a change:

Americanism: Sending missionaries to save the poor heathen; permitting 700,000 children under fifteen to labor in industrial plants while men look in vain for jobs.—Hartford *Times*

More broadly, it seems fair to assume, the normal American does not believe that individuals can really "earn" huge incomes in a poor world where decent men must assume some responsibility for one another. An acceptable idea of justice is payment according to earnings, with some reasonable readjustment of the results created by good and bad luck. People should not get something for nothing; they should not be paid for useless or vicious effort; and there should be respect for the tenet that a man is his brother's keeper. In practice, the prevailing "productivity-ownership" principle of distribution—which bases a person's income on the marginal productivity of the productive agents which the person *owns*—yields results of a far different character.

PROBLEMS

1. A United States senator once stated, in effect, that our national income consists of the gross value of our national output less the cost of producing the output. Do you agree? Explain.
2. Explain what is meant by (a) economic inequality; (b) an increase or decrease in the degree of inequality.
3. Explain the difference between per family income and the income of the typical family in the United States.
4. Leaving the effects of public finance out of account, would you expect economic inequality to be more pronounced: (a) in the United States than in England in 1939; (b) in the United States in 1939 than in the United States

⁷ Only Yesterday. New York: Harper & Brothers, 1931, p. 173.

in 1850? Explain in both cases. What is the result of leaving the effects of public finance out of account?

5. "If the wealth of the United States were distributed evenly this year, it would not be long until economic inequality was as great as ever. Hence there is no use in trying to reduce inequality." Discuss.

6. "Since the fact that some people get very large incomes has little to do with making the income of the average man low, we should stop talking about economic inequality." Discuss.

7. "As his 'Charlie McCarthy' has delighted millions, Edgar Bergen deserves every nickel he gets." Discuss.

8. "The equalization of incomes would deprive the poor of the jobs which are now created by the expenditures of the rich." Discuss.

9. "The equalization of incomes could only push down the standard of living and the quality of the population by encouraging a great increase in the number of the lower classes." Discuss.

10. "The reduction of economic inequality would impair education by stopping the donation of large sums by the rich for educational purposes." Discuss.

11. "The reduction of economic inequality would hurt production by decreasing saving and destroying the incentive to produce." Discuss.

12. "Extreme economic inequality is inhumane, wasteful, unsportsmanlike, and dangerous." Do you agree, in whole or in part? Explain.

13. Discuss the merits and shortcomings of the following general principles of personal distribution: (a) equality; (b) relative sacrifices; (c) relative needs.

REFERENCES

See list of references at the close of Chapter XXVIII.

XXVIII

ECONOMIC INEQUALITY: PROPOSED REMEDIES

We may reasonably infer that in so far as any society limits opportunity to privileged groups within it, that society is needlessly losing the aptitudes and talents which might otherwise be brought to light within the ranks of the unprivileged.¹

The Problem of Transfers

IF WE ARE inclined to doubt that economic inequality threatens to carry us along dangerous paths, we may find food for thought in the plan of an American who not many years ago made millions of voters believe in the impossible. The kindly Dr. Francis E. Townsend was old before his great inspiration dawned on him. Infuriated, he explained, at the sight of three old women hunting for food in a garbage can, he set out to right social wrongs with "revolving pensions." What he thought he had was a plan which would distribute national income more fairly and increase its size at the same time. Persons aged sixty or more were to be given \$200 a month (or enough to bring their income up to this level) on two conditions: that they abstain from work, thus providing other people with jobs, and that they spend each monthly pension within one month, thus putting money into circulation. The funds required to finance the plan were to be raised mostly by taxing business transactions—by collecting, say, 2 per cent every time anything is sold. In reality, this was a plan for working less and spending more. Probably its main effects would be the following.

First, some 8 million pensioners, out of a population of 130 millions, would get enough to make their personal incomes several times higher than the average income of other people. Second, the proposed taxes, if they were actually used, would be proportional rather than progressive in their effects. Third, spending could hardly be speeded up, in the long run, since the money which is to be given to some spenders is to be taken

¹ R. M. MacIver, *Society: A Textbook of Sociology*. New York: Farrar & Rinehart, Inc., 1937, p. 180.

from others. Fourth, numerous people would be paid handsomely to stop producing anything, and they would also be discouraged from saving. Fifth, it is likely that the plan, as it annually calls for some 20 billion dollars of public revenue, would be financed by inflation, and that it would end by being a major threat to American institutions in general.

What the Townsend movement vividly illustrates is the danger of extreme and persistent economic inequality. Its absurdities did not keep it from attaining very threatening dimensions in its heyday. We should be optimistic to suppose that it is dead today. Office seekers are still endorsing the general outlines of its pension scheme and are securing many votes because they do. It gives us some idea of the furious credulity of the poor during a great depression. There is little assurance that during another prolonged depression desperate people will not force through some equally disastrous plan, unless in the meantime inequality has been substantially reduced. We could afford, if necessary, to make some sacrifice of national wealth in order to secure the values which are peculiar to democracy itself. It remains to see whether such a sacrifice is probably necessary.

THE "PRODUCTIVITY-OWNERSHIP" PRINCIPLE AND "TRANSFERS"

But any attempt to effect a substantial reduction of economic inequality without at the same time impairing seriously the size of the national income brings us face to face with the fundamental character of the "productivity-ownership" principle of distribution. Under this principle, as we have seen, the marginal productivity of an agent of production plays two parts. To the user of the agent, it gives rise to an *opportunity cost* of production. To the owner of the agent, it gives rise to *personal income*. Thus the principle may be correctly termed also a "cost-income" principle. On the cost side, it is certainly desirable that the prices paid for the use of productive agents should conform closely with the marginal productivity of the agents. This arrangement serves the purpose of securing an economical distribution of productive agents between different fields of production. On the income side, however, it is in many cases highly undesirable that the incomes of persons should conform closely with the marginal productivity of the agents which the persons own. The reason is that the distribution of ownership itself is highly inequitable.

Thus the problem is essentially that of dissociating the income side of the principle from the cost side, modifying the operation of the former while leaving the operation of the latter intact. To illustrate, we cannot, without encouraging a wasteful use of productive agents, simply decrease

the *wages* of expert labor, such as corporation management, and increase the *wages* of unskilled labor, such as pick-and-shovel work. This would amount to underestimating the value and cost of the expert labor and overestimating the value and cost of the unskilled labor. What is needed is an indirect transfer of income from the rich to the poor—that is, a transfer which affects the relative incomes of persons without affecting the relative costs of different products. Moreover, the transfer must be so effected that it will not seriously impair the incentive and the ability to produce.

GENERAL METHOD OF TRANSFER

The income to be transferred can be liberated in either of two general ways: by preventing the rich from ever receiving it, or by recapturing it after it is received. To illustrate—bequests can be directly limited, or inheritances can be taxed. In general, a redistribution of income by means of transfers is most practicably worked out through the system of government finance. It takes the form of *progressive collections* and *regressive expenditures*. Thus, the proceeds of graduated taxes on inheritances and incomes are spent on schools, social insurance, and the like, which are of especial benefit to the poor. The object is to make such transfers without reducing the size of the national income which is available for distribution. The general effect of transfers on the size of the national income depends on two things: the effects of transfers when they are made, and the effects of looking forward to transfers. Thus we have to do with both the *fact* and the *prospect* of transfers.²

TRANSFER AS A FACT

Once it is an accomplished fact, a transfer from the rich to the poor need not injure the national output. There is no compelling reason why it should make either class less able or less willing to produce. Here is the situation: Income has actually been transferred. The rich have less than before and the poor have more. If all this amounts to is that the im-

² The remainder of this chapter, although specific applications of the principles are drawn from the American scene, leans heavily on the work of A. C. Pigou, *The Economics of Welfare* (1929), Part IV, and of Hugh Dalton, *Some Aspects of Economic Inequality* (1929), Part IV. Apart from "noneconomic" consequences, such as the aggravation or mitigation of group antagonisms, the "cost" of a program of progressive collections and regressive expenditures is equal to the decrease of the national income occasioned by it, and is negative if an increase of this income is occasioned. Of course additional administrative expenses caused by the program must be taken into account in estimating costs. A troublesome problem is raised by the fact that the change of personal distribution alters the standards by which comparative values are judged. In terms of the total satisfactions enjoyed by society, however, the value of a given amount of national income is really increased by reducing inequality of personal distribution.

portance of wealth has been increased for the rich and decreased for the poor, we should now expect a few rich people to work considerably harder than before and numerous poor people to slack up a little. Thus the net effect on production should not be great, one way or the other. But a transfer can be made to do better than this. It can be so designed as to encourage production by both groups.

Let the income be collected from the rich by progressive taxes. The rich still have as much personal ability to produce as they had before, and they have a greater incentive to do so because their wealth has been decreased. (The effect on saving was discussed in Chapters XXIII and XXVII.) Now the poor might or might not ease up appreciably if they received this income in the form of money. Their economic needs still being intense, it seems doubtful that they would. Suppose, however, that they would. Then let the proceeds of these taxes be transferred to them, not in the form of money or of the things they usually buy, but in such forms as better schooling and housing. This is not likely to decrease their incentive to produce, and it will certainly increase their ability to produce. Thus the *fact* of a transfer need not reduce production, and might even increase it.

TRANSFER AS A PROSPECT

We now have to consider how the rich and the poor would be affected by the *prospect* of transfer. A popular opinion has it that the rich, expecting to be deprived of income, would become too disgusted to produce much, whereas the poor, expecting to get something for nothing, would begin to take things easy. But this solution of the problem is much too simple. The actual effect would depend largely on the manner of taking the income from the rich and the manner of giving it to the poor.

As for the rich, the prospect of losing a flat amount, specified in advance, should actually stimulate economic effort. That is, the expectation of decreased income in the future is an inducement to work harder and save more in order to transfer income to the future. The prospect of *progressive* taxes, however, is different. Beyond some point, a man will decide against additional work, foreseeing that he will not be able to keep enough of the additional wealth to justify the trouble. Yet the location of this point is in much doubt, because the whole question of human incentives is raised. People have various reasons for producing: to consume; to have more than other people in their general class; for the pleasure of producing; for the reputation of success. Thus nobody knows at just what point, or even near what point, progressive taxation would seriously impair the incentive to produce wealth. It is safe to say, how-

ever, that progressive taxes on inheritance can go farther than similar imposts on income. And, as the rich receive much income without effort, it is further reasonable to assume that the expectation of making large transfers need not greatly hinder production.

For the poor, the effect of expecting a transfer depends on the form of transfer expected. Say to a man, "Regardless of what you get by work, anything you lack of \$200 a month will be made up to you by the State," and that man will be encouraged to loaf. This is the sort of prospect held out by Dr. Townsend's plan for old-age pensions. Say to a man, "You shall get \$50 a month from the State, and you can add to that by work or not, just as you like," and the prospect of the transfer will neither encourage work nor discourage it strongly. (However, the size as well as the form of the transfer must be considered. The expectation of receiving *large* sums may seriously repress work and saving by decreasing the importance of providing for the future. For example, "Thirty dollars every Thursday" would discourage effort much more than "Fifty dollars a month," while "Thirty dollars every day but Thursday," as the wags have it, might stop work altogether.) But say, "You shall have a bonus equal to 20 per cent of your wages," and work will be encouraged. This resembles the prospect created by old-age insurance under our Social Security Laws, which will be reviewed at a later point. Upon retiring at the age of sixty-five, each wage earner who is included in the plan is to receive benefits proportioned to his average wages and to the length of time he has worked. Transfers of this type need not be limited to old-age benefits.

Thus transfers of income from the rich to the poor need not be serious impediments to production. It remains to indicate how governments can effect transfers by means of progressive collections and regressive disbursements.

Progressive Collections

Progressive income taxes can make available for the poor more than they have in normal times. As we shall see in Chapter XXIX, they are not likely to be shifted, or to cause much change in the relative outputs of different products. The main question, then, is the fairness of taking more. The common mistake is to look only at what is taken. There is no doubt that much is already taken. But attention should be focused, rather, on what is left. It is this which tells the real story of inequality. Certainly so much remains as to leave the distribution of income far out of line with the distribution of conscientious and intelligent effort. And certainly far more is left than is necessary to secure from the receivers of the big

incomes approximately as much effort as they exert now. But it is inheritance, above all else, which creates inequality of opportunity, and which is most open to attack without danger of destroying the incentive to produce.

PRINCIPLES OF INHERITANCE TAXATION

Taxes on the *amounts* of inherited wealth should be extremely progressive. Clearly the heir does not earn the wealth, nor is there any danger of destroying his incentive to produce something which he does not produce. We may also assume that as a rule philanthropic bequests are not to be taxed, as they are themselves desirable transfers of wealth. The only serious question about the policy now proposed is the effect on those who bequeath property. Is the prospect of bequeathing wealth to relatives a powerful incentive to production, or is it only a weak one? That is the main question. The desire to protect children from hardship, to give them a comfortable home and a good education, is surely a strong incentive. Beyond that, however, the reality of the incentive is doubtful. Andrew Carnegie was so unimpressed with the attractions of going farther that he recommended very stiff taxes on inherited wealth. To judge by the tenacity with which most men cling to their wealth till death, instead of giving it to relatives ahead of time, the desire "to have and to hold" is enormously more powerful than the desire to bequeath.

In any event, it is unlikely that the incentive of bequeathing extends far beyond the immediate family. Thus inheritance taxes should be graduated, not merely with respect to the *amount* of bequests, but also with respect to the *remoteness of blood relationship* and to the *number of transfers*. As for "collateral heirs," it is seldom easy to make out a convincing case for leaving substantial bequests to cousins and nephews. As for direct descendants, the principle suggested by the Italian economist Rignano is sound. Rignano proposed that taxes should be graduated according to the number of transfers, and that all that was left of an original estate should be taken on, say, the third transfer. This would amply safeguard the incentive to bequeath.

DETAILS OF INHERITANCE TAXATION

Since the primary object is to reduce inequality rather than merely raise revenue, taxes should be imposed on individual inheritances, not on the whole estates of decedents. If a man leaves \$10,000 to two sons, taxes progressing for each successive \$1,000 would raise more revenue if levied on the entire \$10,000 than if placed separately on each \$5,000 bequest; but the latter arrangement is better for controlling personal dis-

tribution. And of course there would be other details requiring intelligent administration. Where inheritance takes the form of physical property, taxes should be collected in such a way that heirs need not make forced sales at a heavy loss. Inheritance taxes probably should be paralleled, too, by equally severe taxes on gifts. This is to prevent men from evading the taxes by giving the wealth to heirs beforehand. It is true that gift taxes will not always be effective, since gifts can be made to look like sales. Still, the whole problem is less important than it might appear, because, as a rule, men are strongly disposed to hold on to what they have as long as they last.

As a further safeguard to national output, all inherited wealth over a certain maximum, after taxes are deducted, might be put in the hands of public trustees. The trustees, by giving the beneficiaries only the income but not the principal, could prevent the dissipation of capital. The present tendency of different states of the Union to tax the same transfer of wealth is a governmental problem which can be solved. It is usually easier to determine the residence of heirs than the residence of decedents, and inheritance taxes should fall on individual inheritances in any case.³

The graduation of inheritance taxes in the three ways discussed—with reference to the size of bequests, to the remoteness of blood relationship, and to the number of transfers—can be made to release a great deal of income for transfer to the poor. To take a single illustration, J. P. Morgan I inherited \$10,000,000; and his son, J. P. Morgan II, was able to get a start in business with several times this amount. Under the plan proposed, J. P. I would have had to get along as best he could with much less, say \$2,000,000; J. P. II might have been stripped down to a million of the original amount; and the heir of J. P. II might get none of the original \$10,000,000. At the same time, inheritances out of additions to inherited wealth, such as the huge addition made by J. P. Morgan I, and the still larger one which has been piling up in the hands of J. P. Morgan II, would feel the heavy hand of progressive taxes, whereas taxes on bequests to remotely related heirs would be well-nigh confiscatory.

INTERNAL DEBT AND THE "CAPITAL LEVY"

The internal government debts of many nations, including the United States, have been swollen enormously by resorting to borrowing as a means of financing the abnormal expenditures occasioned by wars and depressions. Thus, our own national debt was pushed up to about

³ The present federal inheritance tax falls instead on estates. Whether jurisdiction is disputed or not, matters would be improved if the federal government collected the taxes for the benefit of the states. This would make for uniformity of treatment. The separate states are not likely to agree among themselves on uniform legislation on the subject.

27 billions by the First World War, declined some 10 billions during the 1920's, was raised by the Great Depression of the 1930's to almost the long-standing statutory limit of 45 billions, and, after the outbreak of the War of 1939, passed the old statutory limit and began a further rapid ascent toward an unknown height. Such a debt, despite the fact that the people of a country owe it to themselves, may become so large as to have serious economic consequences unless drastic measures are taken to reduce it. Business confidence may be shaken by the fear of repudiation in one form or another. If doubt becomes general that the government will pay interest on its debts, or pay it in money at least approximately as valuable as the money it borrowed, public credit will be undermined, private credit will collapse with it, and financial disorder will cause grave economic hardship. Even if matters do not go to this extreme, the prospect of having to pay heavy and progressive taxes in order to take care of the interest on a huge debt may stifle hope and ambition. The point was well expressed a century ago by the German poet, Heinrich Heine. Writing of the situation created in England by the heavy debt incurred during the Napoleonic Wars, he said:

The greatest of all evils is the Debt. . . . The whole of England has become one vast treadmill, in which people have to work night and day in order to feed their creditors; England has lost all the gaiety of youth and has grown old and grey through money worries; England—like most men heavily in debt—has been driven to a state of dull and helpless resignation.⁴

Under such circumstances it may be wise to wipe out a large part of the debt by means of a "capital levy."

The term "capital levy," as used here, means a tax which, being too heavy to be paid out of current income, deprives taxpayers of the possession of capital. The idea behind it is to collect a very big amount at one time, in order to reduce the principal of the debt, instead of collecting smaller amounts year by year to meet an interest burden which is allowed to run on indefinitely. The proposal is to base the levy on the capital of individuals, not on the capital of firms. Thus there would be a transfer of wealth, not to an outside country, and not from one business or industry to another, but from taxpayers to government creditors. Since in fact the creditors and the taxpayers are to a large extent the same people, the levy would not really occasion any wholesale transfer of wealth at all.

Most of the arguments used against a capital levy in the British elec-

⁴ Cited by Hugh Dalton, *The Capital Levy Explained*. New York: Alfred A. Knopf, Inc., 1923, pp. 23-24.

tions of 1922 were based on misunderstandings concerning these facts. They employed the type of inter-pocket legerdemain, so common in politics, which causes the innocent spectator to view a redistribution of wealth as a change in its amount. But in this case the results were quite the contrary to Dr. Townsend's, since the amount was supposed to be ruinously reduced.

EFFECTS OF A CAPITAL LEVY

The main effects of the levy may be illustrated as follows. You get an annual income of \$10,000 from certain property. Assuming the going rate of interest to be 4 per cent, your "capital," namely, the capitalized value of the income derived from your property, is \$250,000. Before the capital levy goes into effect your taxes amount to \$1,000 a year, or to 10 per cent of your income, the \$1,000 being used by the government to pay interest on the national debt. After the levy goes into effect, the government takes a certain percentage of your capital. It does this just once, since the object is to do this *instead* of taking a certain percentage of your income year after year indefinitely. Suppose it takes just 10 per cent of your capital, or \$25,000. In that case you lose just what you lost under the old arrangement, namely, the annual income on \$25,000 of capital, or \$1,000. Probably, however, you will lose somewhat more than that. The levy is likely to be progressive, like a personal income tax, and to take the place of regressive taxes on commodities. In so far as this is so, your share of the levy will be more than \$25,000, and the tax burdens of the poor will be lightened.

But you also gain something. The capital taken from you and others is used to retire the national debt. Although the \$25,000 is gone (except for whatever you may get back from the government as one of its bondholders), you at least start with a clean slate. What you produce after this is yours, as far as the national debt is concerned. You no longer face the discouraging prospect of paying endless taxes to meet interest charges on the debt. Nor need you worry as before about the soundness of the public credit.

Of course this case is extreme in assuming an impost so big as to liquidate the entire national debt. As used in Italy and Czecho-Slovakia, levies on capital have not been nearly stiff enough to do this. The levy which was proposed by the British Labour party called for the retirement of only about half of Britain's domestic debt. But the case will serve to illustrate the main principles. The main effects of such a levy should be two: first, to encourage production by improving the public credit and by substituting present for prospective taxation; second, to reduce eco-

nomie inequality by replacing indirect and regressive taxes with a direct and progressive tax. Although our own debt had not been heavy enough in the 1930's to make the capital levy a public issue, there is no denying that the 1940's find us moving rapidly in that direction.

Regressive Expenditures

The task of reducing inequality becomes much less difficult when expenditures benefiting mainly the poor are combined with collections taken mainly from the rich. The point can be illustrated in this way: Suppose the government wishes to even up completely the incomes of White, who gets \$7,000 a year, and Black, who gets \$1,000. If progressive collection alone were relied on, \$6,000 would have to be taken from White, leaving the two men \$1,000 each. But if regressive expenditures are combined with progressive collections, it will be sufficient to take \$3,000 from White and spend it for the benefit of Black. To be sure, dead-level equality is neither practicable nor desirable. Yet the opportunities for sound regressive expenditures are surprisingly great. Increased outlays on conservation, health, education, housing, public works, and social security could be made with substantial benefit to both the distribution and the size of our national income.

CONSERVATION

If Americans are more prosperous than other people, one reason is that we have a relatively great amount of natural resources per person. If America is democratic, the reason is partly that an abundance of natural resources has continually opened up opportunities for the masses of our people. As long as good land was plentiful and cheap, class distinctions were not sharp. Anything which keeps opportunities open makes for democracy. On the other hand, anything which withholds opportunities conduces to a closed-class system, to autocracy. Here we find, not only war, depression, and the growth of monopoly, but also a scarcity of available natural resources. The conservation of resources has become an urgent problem in the United States. Moreover, the solution of the problem demands heavy public expenditures.

Cheap land is a thing of the past. The present task is to conserve what we have. The fact that land is now wastefully used is no excuse for allowing the deterioration of our land as a whole. Yet the land is deteriorating. For one thing, it is being blown away. In May, 1934, one dust storm swept from our wheat land 300,000,000 tons of top soil, or about as much as is washed into the ocean every year by the Mississippi River. Much of this damage could be prevented by means of shelter belts

of trees. We need about 220,000 miles of them. We have perhaps a fortieth of this amount. We should be establishing around 11,000 miles a year. But this calls for large public expenditures. Our soil is being washed away, too. As most of the land is sloping, and as the fertile top soil averages only six or seven inches deep, existing methods of cultivation would serve to destroy the bulk of our good land in 75 years. Terracing, the planting of grass, and so on, would prevent most of the water erosion. But it takes heavy public outlays to develop such measures. Our soil is also losing fertility. Although potassium is plentiful, there is a deficiency of phosphorus and nitrogen. Since ample phosphorus would make it possible to grow crops which add nitrogen to the soil, the main problem is phosphorus. Where it is lacking, the vegetation is such that animals rapidly lose strength and size. But phosphate fertilizer is so expensive that farmers use only about a third as much of it as they should. The cheaper production of phosphates requires a cheaper generation of electricity. Hence it waits for the further development of such projects as the TVA, which are too costly for private enterprise.

The situation is similar with minerals. Our reserves of anthracite coal are almost one-fourth gone; of zinc and lead, more than half gone. Oil, gold, silver, copper, even bituminous coal, become more and more expensive to extract. No important new American sources of most of our metals have been discovered for thirty years. Funds are needed to purchase stocks of certain "strategic" minerals, to assume public ownership of some reserves, to get out some low-grade ores before mines are lost by flooding. So also with timber. The rapid exhaustion of forests has caused cities to wax and wane within a few decades. Thus Fullerton, Louisiana, which boasted a population of five thousand in 1917, had just one inhabitant in 1935.⁵ To rehabilitate our timber resources and conserve our soil, some fifty million acres should be planted to trees. But outlays exceeding a quarter of a billion dollars a year are needed for the purpose, and the job is too costly for private enterprise.

HEALTH

Where health languishes, the production and enjoyment of wealth decline. Take a single illustration. Each year our leading destroyer, syphilis, permanently disables half a million people—nearly four times as many as are disabled by automobile accidents, and a hundred times more than are crippled by infantile paralysis. After a thirty-year campaign, Sweden has reduced her cases to roughly one-fiftieth of the number existing in an American population of the same size. Public expendi-

⁵ See D. C. Coyle, *Roads to a New America* (1938), pp. 73-81.

tures of fifty million dollars a year—about a tenth of what we now spend on patent medicines, faith healers, and the like—will go far to stamp out the disease. Prevention is infinitely more effective than cure. Of the approximately ten billion dollars a year which we lose by sickness and accident, the United States Health service estimates that two or three billions could be saved by spending a few hundred millions. And yet only about a thirtieth of the three and one-half billion dollars which we annually spend for medical care goes to the public prevention of disease. Prevention is a good national investment, but it must be tackled on a national scale.

EDUCATION

Americans in general, and poor Americans in particular, are undersupplied with education. In 1937 more than 5 per cent of the youths sixteen to twenty-four years old who were out of school had not finished the sixth grade, and over one-fourth had not completed the eighth grade. Less than two-thirds of the youths of high-school age were in school, while the number in college was only about a fourth as great as the number in high school. Moreover, the quality of even our primary and secondary education is deficient. A fourth of our students attend school where funds are seriously inadequate. In rural districts we still have about forty thousand one-teacher schools. Here there are not enough books, and the teachers are both underpaid and poorly trained.

We spend about two billion dollars a year on public schools, or approximately fifteen dollars for every American person. It is true that education is already subsidized, but the subsidy is inadequate in the extreme. It is not only inadequate but precarious as well. This is especially true of advanced education. Thus, the plight of the privately endowed college is becoming almost as notorious as the plight of the farmer. And the small and fluctuating subsidy scarcely more than touches the poor, nine-tenths of whom are denied a college training. Here "liberal education" falls short of being liberal. It falls short also in the following respect.

The prevailing attitudes of students and graduates toward social problems are naturally reflected in the "atmosphere," and even in the teachings, of the schools. The advocacy of social changes favorable to common laborers is always subject to the subtle pressure of tradition. "One does not do that sort of thing." In times of general economic hardship there is still heavier pressure. Certainly those who help to endow the schools are not to be blamed for this, as their contributions *tend* to correct the situation. To take them to task would be like scolding the

people present at church because so many are absent, as Edwin Cannan once put it. Probably, too, their views are well above the average in liberalism. The only real remedy would seem to lie in a higher proportion of working-class students and graduates. But experience makes it clear that this is not likely to be secured otherwise than by heavy State expenditures for the express purpose.

HOUSING

The United States falls far short of the housing accommodations required for comfort, even for health. After careful study, our Department of Labor suggested the following standard for a family of five. There should be a kitchen, a living room, a bathroom, and three bedrooms. Adequate plumbing and laundry facilities are essential. Each room should be approximately eight feet high and should contain at least one window opening to the outer air. Anything less than this is overcrowding. But, in fact, one city family out of five is overcrowded. A Department of Commerce survey of sixty-four cities in 1934 showed only 37 per cent of the dwelling units to be in really good condition, over 15 per cent to need major repairs, and 2 to 3 per cent to be quite unfit for use. Ten per cent of the units lacked electric lights; about 15 per cent lacked indoor toilets; some 25 per cent lacked tubs or showers; another 25 per cent lacked gas or electric cooking; and half the units lacked furnaces or boilers.

Much of the trouble springs from local conditions. Sometimes a boom in a particular industry is responsible. In Detroit, following 1936, mere shacks commanded \$30 to \$40 a month. Real-estate speculation, high taxes on realty, piecemeal methods of construction, zoning ordinances which call for high-priced dwellings, building codes which are rigged in favor of certain sellers of supplies—all these make for excessively high costs. In any case there are not enough adequate quarters to go around, and it is chiefly the low-paid workers who have to go without. Here there is a strong case for regressive expenditures in the form of a public subsidy to low-cost housing. That is, more would be gained than lost if houses meeting the required standards of health, comfort, and attractiveness were sold to laborers below cost, or rented to workers at less than the going rate of return on the investment, with the public meeting the deficit occasioned by this policy. In the short run, to be sure, this proposition does violence to the principle of opportunity costs, which tells us that the production of a given commodity should be carried only so far as permits sale at a price equal to cost. In the long run, however, the provision of adequate housing may reasonably be expected to add

substantially to national income by improving the health, morale, and general efficiency of laborers. There is no telling, of course, exactly *how* far this policy could be carried to national advantage. But it seems safe to say that it should be carried much farther than it has been.

FEDERAL AID TO HOUSING

From 1932 till the development of the defense emergency created by the War of 1939, our federal government undertook to stimulate housing construction, and to make existing housing more readily available to families of low income. The Home Owners' Loan Corporation, subsidiary of the Federal Home Loan Bank Board established in 1932, made loans of over \$3,000,000,000 to prevent the loss of more than a million homes by mortgage foreclosure. The Resettlement Administration built three "greenbelt" towns near cities; and the Public Works Administration constructed fifty-one slum-clearance projects providing inexpensive quarters for about twenty-two thousand families. The Federal Housing Administration, which began to operate in 1935, encourages construction of medium-priced houses by insuring banks against losses on loans extended for the purpose of buying such houses; but it is not designed to help our lowest-income groups. The United States Housing Authority, created in 1937, is charged with providing low-rental housing for those who now live chiefly in slum areas. It lends to local housing authorities 90 per cent of the cost of construction. The rent must be high enough to cover all operating costs and repay loans in 60 years; but a federal subsidy is used for the purpose of preventing rentals from putting the quarters out of the reach of poor tenants. For each \$5 of subsidy provided by the USHA, the local government or housing authority is to contribute at least \$1. Progressive as these measures are, however, not much more than a beginning has been made on our housing problem. It has been estimated that we require around 700,000 new units a year merely to keep us from getting still farther behind. Annual construction in the 1930's fell much below this figure.

PUBLIC WORKS

Public works present another opening for regressive expenditures. Since 1933, when the Federal Emergency Relief Administration was established, two general types of relief have been extended to the unemployed. *Direct relief*, or home relief, has been designed for "unemployables," who comprise about one-sixth of the unemployed. *Work relief*, or a combination of payments and work, is designed for employables. A comparatively small part of all work relief has been provided by the

Citizens' Conservation Corps. In 1933-34 about 4,000,000 persons, only half of them taken from FERA rolls, were given regular work at good wages by the Civil Works Administration. But as this measure was very expensive, and as the high wages attracted men from private employment, a new approach was adopted in 1935. Unemployables were mostly turned back to states and localities, and the Works Progress Administration undertook to help the remaining unemployed by means of a huge program of public works.

The expenditure of several billions of dollars by the WPA has evoked widespread criticism, much of it more noisy than fair. Refusal of private employment by men on work relief is comparatively infrequent. During depression, most of the men on work relief do not have the alternative of private employment. Instead, the actual alternative is idleness. It is true that the employees of the WPA have done more or less loafing on the job. Under the circumstances, the threat of discharge is used sparingly. Of course this is demoralizing, just as it is demoralizing to receive pay from a private corporation for loafing, and just as it is demoralizing, too, to receive income in the form of rent or interest or profit without working for it. But, where private employment is not available, the alternative to work relief is direct relief, which, since it typically consists in paying men for no work at all, is far more demoralizing at the same time that it is less productive. The "boondoggling" argument, or the charge that the work is mostly on useless projects, is also unfair. Exaggeration has been attained by recurring again and again to a comparatively few cases in which there really has been serious waste; and too little allowance is made for the fact that the necessary haste in devising the program has naturally caused wastes which could be avoided by long-range planning. Public work relief during depression can be made an effective instrument for evening up the personal distribution of the national income and increasing its size at the same time.

SOCIAL SECURITY

Much of the burden which otherwise would fall on public relief can be assumed with advantage by other measures for social security. Broadly interpreted, "social security" implies arrangements under which society secures individuals against dangers which are beyond individual control. It is a sort of insurance, and indeed it is commonly called "social insurance." Yet it differs in two ways from ordinary insurance. It is more social in the respect that the group which pays for the protection is normally much bigger than the group which receives it. And it is less like insurance in the sense that the risks are more fluctuating and less

calculable. Owing to this second distinction, social *insurance* alone is not sufficient to meet the needs of social *security*, which demands also such devices as direct relief and work relief. The main hazards with which social-security measures seek to cope are those which unskilled laborers are unable to master for themselves. They are the hardships occasioned by occupational accidents and diseases, unemployment, and old age.

WORKMEN'S COMPENSATION

As it now operates in most states of the union, "workmen's compensation" has proved a valuable supplement to "employers' liability." This is because it makes possible the collection of benefits without establishing responsibility for occupational accidents. It requires employers to *insure* risks. Employers' liability throws the burden of proof on the injured worker, and frequently enables the employer to use various handy devices for escaping responsibility for accidents. John R. Commons, famous authority on labor problems, once illustrated the point as follows:

Standing on the ground beneath a top-floor window, a worker was letting down debris by operating a pulley which was attached to a cornice above the window. He worked one end of a rope the other end of which was attached to a barrel. A practical joker up above loaded the barrel with cement. Holding desperately to the rope, the worker zoomed upward until his head struck the cornice. At the same moment the barrel hit the ground and the bottom dropped out. Still holding on, the worker fell to the ground while the barrel whizzed upward. Then he let go, with the result that the barrel fell on him. Thrice wounded, he sued the building contractor and lost. Said the learned judge: "There's *contributory negligence* here. You held on when you should have let go and let go when you should have held on." And "the Law in its majestic equality" might have given the employer the benefit of two other familiar dodges: the *assumption of risk* (the worker voluntarily took his chances when he took the job), and the *fellow-servant doctrine* (it was unreasonable to hold the employer for what the plaintiff's fellow servant did). It was up to the worker to prove that the boss had not used reasonable care with respect to working conditions and fellow servants. Even had he collected, the worker probably would have paid a large part of his compensation to an "ambulance chaser," a shyster attorney engaged in milking both employees and employers.

Until the 1930's, workmen's compensation was American social insurance at its best. Yet only the more hazardous occupations are covered by it, employments like farming and domestic service being excluded;

occupational diseases are generally omitted; payments are delayed and small; and provision is seldom made for rehabilitation. Losses from unemployment and old age are outside its ambit. In our provision for social security we have lagged far behind other industrial countries. Now, however, we are making a national effort to catch up.

SOCIAL SECURITY SINCE 1935

Our Social Security Act of 1935 extends three main types of protection. First, there is unemployment compensation, which is administered under state laws approved by the federal government. Second, there are old-age benefits, which are based on earnings received before the retirement age of sixty-five. Third, federal aid to the states further widens the scope of social security. There are federal grants to states, more or less on a matching basis, for helping the needy aged, the needy blind, and children under sixteen who lack parental support. Also on a matching basis are payments to states for maternal and child-health services, medical and other care for crippled children, and welfare service for children who are homeless, dependent, or neglected. Finally, there are payments to states for supporting state and local health services, and for the vocational rehabilitation of the physically disabled. The whole program is under the general administration of the Social Security Board.

To finance unemployment compensation, employers in the included industries pay a federal excise tax of 3 per cent on the wages of each worker who is employed at least twenty days a year. But from this tax employers may deduct up to 90 per cent of the amount which they contribute to state unemployment funds approved by the Social Security Board. (The remaining 10 per cent is to cover administrative expenses.) As employers must pay the tax whether their state establishes unemployment insurance or not, state insurance has now become universal in the United States. State unemployment compensation funds must be turned over to the Unemployment Trust Fund of the United States Treasury, from which the states can make withdrawals only for the purpose of paying benefits.

Eligible employees cannot be denied compensation for going on strike. They are also protected against "yellow-dog contracts"—they cannot be denied compensation for refusing either to join a company union or to stay out of a regular union. In general, state laws deny eligibility to farm workers, domestic servants, sailors, public servants, and the employees of charitable, educational, and other nonprofit institutions. As a rule, unemployed eligibles are entitled to weekly benefits equal to about half their regular wages. But there are qualifications. In most states

there is a minimum of \$5 and a maximum of \$15 a week; benefits cannot continue for more than fifteen or sixteen weeks a year; and the employee, who must qualify by holding a job for a certain length of time, does not receive benefits until he has been unemployed anywhere from two to six weeks.

To finance old-age insurance, both the employer and the employee in each included industry (the exceptions are about the same as for unemployment insurance) contribute to a federal fund an amount which is to rise, by 1949, to 3 per cent of the employee's wages. The amount of any individual monthly benefit to an employee who retires at the age of sixty-five depends on the total contributions made by the beneficiary before reaching the retirement age. This arrangement serves as an inducement to steady and efficient work. (To illustrate, suppose that the average monthly wage of an insured man who retires during, say, 1950, has been \$100. His benefit is composed of three elements. On the first \$50 the benefit is 40 per cent, or \$20. On the part of his wage which is over \$50 but not over \$200, the benefit is 10 per cent. This gives him 10 per cent of \$50, or an additional \$5. So far, his monthly benefit is \$25. Finally, he receives 1 per cent of his basic benefit—\$25 in the present case—for each year during which he has earned at least \$200. Assume that this has been the case for seven years: seven times 1 per cent of \$25 makes \$1.75. Thus his total monthly benefit is \$26.75.) Upon reaching sixty-five, the wife of an insured retired worker is entitled to a supplementary benefit equal to 50 per cent of her husband's benefit. A supplementary benefit of this same amount is allowed for each dependent child under eighteen years old. There are "survival benefits" for the widow, or dependent children, or both, of the insured worker who dies either before or after retirement; or such benefits are allowed for the dependent parents over sixty-five years old of the insured worker who is not survived by either wife or dependent children. Maximum contributions and benefits are reached with wages of \$3,000 a year. (The maximum base is the same for unemployment insurance.)

INADEQUACY OF SOCIAL SECURITY

American social security is now probably the most liberal provided by any national government. There are about fifty million federal accounts established for old-age insurance, and some thirty million workers are covered by unemployment insurance. However, as a form of regressive expenditures which tend to increase the national income, the system is inadequate in at least two respects.

First, most of the benefits of social security should be given to low

paid workers free. There are two common arguments against this arrangement: (1) that it would encourage the occurrence of the thing insured against; (2) that workers would use political pressure for the purpose of increasing the benefits and extending the eligibility lists. As for the first argument: No particular worker, by feigning injury or sickness, or by dodging a job, can noticeably increase the cost of insurance to himself. Hence it is far-fetched to suppose that the total cost of insurance is much reduced by requiring workers to pay part of the cost. As for the second argument: The political pressure of American labor is amply offset by the political pressure of American employers. Moreover, the benefits and the number of eligibles need to be increased. This leads us to the most important weakness of our security program.

Second, our security measures leave far too much insecurity untouched. The insufficiency of workmen's compensation was reviewed above. We have seen, too, that the benefits of unemployment insurance are slow to come, quick to cease, and small even when they are received. The benefits of old-age insurance are depressingly low, and millions of workers are excluded from them. Most women and Negroes are in the excluded occupations, two-fifths of our Negro population being engaged in agriculture alone. Provision for the wives, widows, and dependent children of annuitants is far from being adequate. Under the system of federal grants to states on a matching basis, old-age *pensions* range all the way from about \$5 to \$30 a month. The exclusion of occupations applies also to unemployment insurance.

Conclusion

The existing extremes of economic inequality could be greatly narrowed by a program of orderly change. Without seriously upsetting the control of the use of productive agents by the machinery of the price system, substantial amounts of national income could be planed from the hills and put in the hollows. Certain public expenditures would have the effect of distributing the national income more favorably to the poorer groups without decreasing the amount available for distribution, and on the whole they would tend to increase this amount. The necessary funds, where for some reason their private receipt is very hard to prevent, could be recaptured by more progressive taxation. In short, a system of "transfers," taking mainly the form of "progressive collections and regressive expenditures," could be so used as to even up the personal distribution of income without substantially modifying the distribution of productive agents between different fields. At the same time, however, there is room for the application of a different method—a method which substantially

alters, not only the personal distribution of income, but also the distribution of productive power between different industries. This is the method of public intervention in fields where "imperfect competition" either makes the output of a product too small and its price too high or else makes the output too large and the price too low. Chapters XVI-XIX dealt with leading cases of such intervention.

PROBLEMS

1. Briefly discuss the economics of the Townsend Plan as a method of distributing our national income more evenly and increasing its size at the same time. What is the social significance of such plans?

2. Discuss the main obstacle to reducing economic inequality by changing the prices paid for the use of different productive agents.

3. "A transfer of income from the rich to the poor can be so designed that neither the actual transfer nor the prospect of it will substantially discourage production by either group." Discuss, illustrating with transfers taking the form of:

(a) Voluntary donations by wealthy men to educational institutions;

(b) The receipts of progressive inheritance taxes used to pay for a program of social security;

(c) The receipts of progressive income taxes used to pay for workmen's compensation;

(d) The receipts of a "capital levy" used to retire internal national debt.

4. Discuss this statement: "Federal outlays on conservation, health, education, housing, public works, and social security would cost the nation so much that we cannot afford them. They would not cause the personal distribution of our national income to be any less uneven than it is. Further, they would greatly decrease the size of the national income available for distribution."

5. Discuss this statement: "The tendency of production to decline because of progressive collections—if such a tendency exists—may be more than offset by the tendency of production to increase because of regressive expenditures."

6. Discuss this statement: "The method of *transfers* proposes to alter the personal distribution of income without substantially altering the distribution of productive power between different fields. On the other hand, the method of *public intervention* in fields of 'imperfect competition' proposes to alter not only the personal distribution of income but also the distribution of productive power between different fields."

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XXIX

GOVERNMENT FINANCE

A citizen is a man who demands better roads, bigger schools, a new post-office—and lower taxes.—Nashville *Southern Lumberman*.

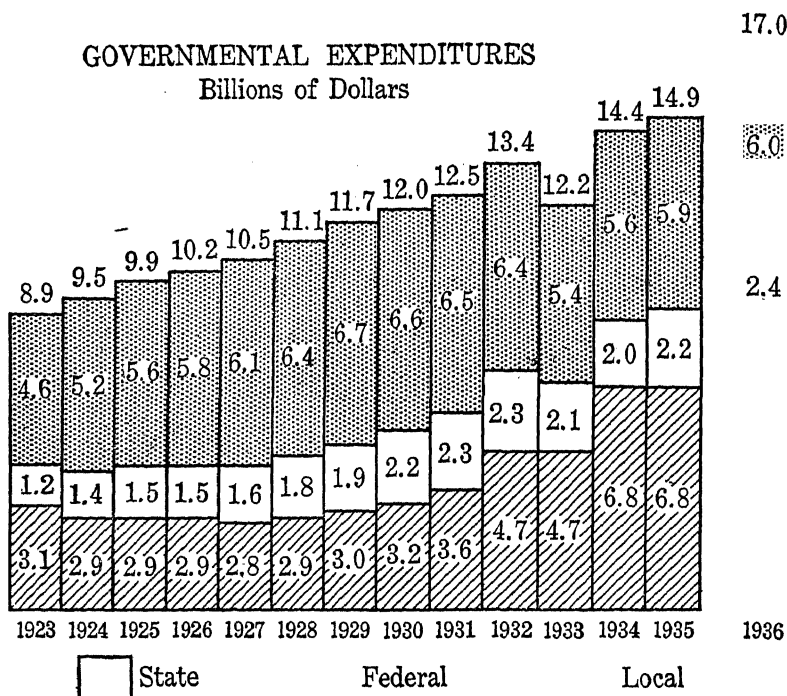
Public Expenditures

IN THE COURSE of the foregoing discussions we have noticed how private initiative has been subjected to one modification after another. Now we come to what is perhaps the greatest modification of all. Even a resolute faith in the future of economic individualism is likely to be shaken somewhat by the size and growth of governmental expenditures. In 1936, when public expenses caused by the shadow of war were slight in comparison with the war costs of today, more than one-fourth of our national income of nearly 64 billions was spent, not by private individuals on their own initiative, but by governmental bodies. Some 8.6 billions were spent by the federal government, 6 billions by local governments, and 2.4 billions by the 48 states. As a part of a general trend, outlays for a year like 1936 are more pertinent than would be the outlays of a year during which abnormally huge expenditures are made for national defense.

THE TREND

If we represent these figures by a column, as at the extreme right of the chart which appears on page 516,¹ we are not necessarily impressed. But we are set thinking if we consider them in relation to a trend. The chart as a whole, which indicates the trend from 1923 to 1936, inclusive, brings out at least two important facts. First, public expenditures have been increasing almost without interruption. (They have also been increasing faster than national income. In fact, this income was a little

¹ Adapted from Chart 1, p. 5, *Cost of Government in the United States, 1935-1937*; National Industrial Conference Board, Inc., 1938. In so far as public disbursements are made to retire public debts, as during the latter 1920's, it is fair to point out that the effect is to reduce the comparative importance of public spending.



larger in 1923 than in 1936, while the expenditures were almost twice as great in the latter year.) Second, federal spending has gained on state and local spending. In round numbers, it rose from one-third of all public expenditures in 1923 to one-half in 1936.

Moreover, this trend has persisted, with occasional interruptions, from the early years of our Republic to the present time. Thus federal spending per capita, not counting outlays on the postal service and debt redemption, increased from about \$2 in 1800 to \$30 in 1930. To take a more recent period, federal, state, and local expenditures combined increased from a trifle over \$1,000,000,000 in 1890 to eight times this amount in 1923, or to about seven times if allowance is made for changes in the price level. In this period tax collections rose from about 7.2 per cent of the national income to 11.1 per cent. And in 1936 total taxation amounted to 16.4 per cent of the national income.

ECONOMIC SIGNIFICANCE

The general tendency is clear. Public disbursements, and with them public collections, are increasing faster than national income. In this

sense "collectivism" is supplanting "individualism." The consequences depend essentially on two things: first, the manner in which public spending differs from private; second, the manner in which public bodies get their purchasing power. Both affect the distribution and the production of wealth. Economic inequality is reduced by expenditures which benefit mainly the poor, and by collections which come chiefly from the rich. To find out what "public finance" does to production, it is necessary to analyze the effects of various forms of disbursement and collection on saving, on the comparative sizes of different industries, and on the incentive to produce.

THEORY OF PUBLIC SPENDING

It is reasonable for governments, rather than individual persons and business firms, to do the spending required to carry on three general types of activity. Of course no very sharp lines of division can be drawn between different types. Further, in determining what specific activities it is fair to include under any of the types, the question is the relative efficiency of private and public initiative, and this leaves much room for debate. The question of private versus public relief is a case in point. Nevertheless, there are fairly clear illustrations of each type.

First, there are functions which private enterprise *could* not perform. Illustrations are found in national defense, in the preservation of domestic law and order, in the protection of public health and morals. These activities, since their returns cannot be measured in economic terms or appropriated for private gain, must be organized on a social scale. Second, there are functions which private enterprise *would* not perform. An example is seen in the economical use of natural resources. The undertaking is too costly, and the returns are too uncertain and too far removed in the future, to attract private enterprise. The best that can be expected of private enterprise, in other words, is extremely wasteful exploitation. Third, and closely related to the second, there are functions, such as education, which private enterprise *should* not perform. To repeat, the different types cannot be sharply separated. Nor, for that matter, can a sharp distinction be drawn between "public" and "private" initiative. For example, a huge "private" oil enterprise is really "public" in the sense that the company and its employees are a considerable society in themselves.

ACTUAL SPENDING

In order to look at actual public expenditures in the light of our classification, we may first consider the distribution of American public

expenditures during a fairly typical year. The year 1926 will answer the purpose, since in that year we had recovered from the 1920 depression and were not yet in the midst of the "new era" boom. Omitting outlays for debt redemption and interest on outstanding debts, we find that the situation was roughly this:²

PURPOSES OF EXPENDITURES	PERCENTAGE DISTRIBUTION			
	Total	Federal	State	Local
General government	9.7	15.9	6.2	7.9
Protection	23.3	61.1	9.7	10.8
Education	25.3	0.7	29.3	34.2
Highways	18.4	4.6	36.1	20.3
Economic development	2.4	6.8	4.4	0.1
Public utilities	7.3	7.6	0.8	9.0
Social welfare	11.8	3.2	13.1	14.8
Miscellaneous	1.8	0.1	0.4	2.9

Of the total expenditures, the four biggest items were for protection, education, highways, and social welfare. (Actually, "protection" includes outlays for the Interstate Commerce Commission and the Federal Trade Commission, but these were a very small part of the total.) Note that outlays for debt redemption and interest payment are omitted from the table. In the case of state and local expenditures this makes no great difference. The items were comparatively small, and expenditures of borrowed funds were distributed in somewhat the same way as expenditures of funds raised by current taxation. In the case of federal spending, however, the omission is important, because the debts giving rise to debt-redemption and interest payments were created mostly by war borrowing, and these payments were large. In 1926 such payments, if included as an additional item in all expenditures, accounted for a little over 23 per cent of total expenditures and for more than 43 per cent of federal expenditures. When this fact is taken into account, it is seen that federal outlays for protection are much more important, in comparison with other items, than the table represents them as being. Even in the 1920's about 70 cents out of every dollar of federal expenditures went for past or anticipated wars. Thus, owing to the character of federal expenditures, more of the national income was being spent for national defense than for education, or for social welfare, or for economic purposes. This weakness was even more characteristic of other large national governments than of our own. In most of the large countries the outlays of central governments for constructive cultural and economic purposes came to less than a third of the total.

² Adapted from *Cost of Government in the United States, 1926-1927*, Tables 6 and 7.

That was in the latter 1920's. Since then the outlays of central governments for "national defense" have become even more impressive. In our own country, state and local outlays for education, roads, and welfare have increased in relation to outlays for protection and general government. But the main changes in the whole situation have stemmed from federal expenditures. Since 1933 this spending has been divided into two roughly equal parts—"regular" and "emergency."

Of a total expenditure of some 7 billion dollars in 1935, about half was used to take care of the emergency occasioned by the depression. Thus, about 1.8 billion went for the Federal Emergency Relief Administration, 712 million for the Agricultural Adjustment Administration, 436 million for conservation, 225 million for the Public Works Administration, and 125 million for the Farm Credit Administration. At a time when the problem of relief had to be tackled on a national scale, these expenditures have at least served to reduce economic inequality as between regions and persons. As instruments for encouraging production, they are subject to the observations made about agricultural control, pump priming, conservation, work relief, and the control of business cycles. The tasks undertaken could not have been accomplished by private enterprise.

Turning to the other half of the expenditures, the "regular" part, we find that nearly 80 per cent went for protection, chiefly national defense. Our peacetime military budget had been growing steadily until it stood at about a billion dollars a year before the outbreak of the War of 1939. However, after the invasion of the Low Countries and the fall of France in the summer of 1940, the former steady rise gave way to an ascent so abrupt that any alleged "present" figures would be out of date before they could reach the printer.

PROBABLE FUTURE TREND

For the future, there seems small doubt that public expenditures will consume an increasingly large part of the national income. So much is indicated by the reasons for the upward trend of the past. We are speaking, now, not of the expenditures of a particular year, such as 1926, nor of the changes which have occurred in recent years. We are speaking of the long-run trend. Disregarding outlays for national defense, the general explanation of the long upward trend lies in economic changes which are still in progress.

For the last century and a half the changes in equipment, methods, and organization of production have been such as to bring wider and wider areas into relations of interdependence. The requirements of

efficiency and justice have made it necessary for governments to intervene at a growing number of points and with increasing vigor. To some extent, it is true, the growth of public spending is attributable to faulty administration. In particular, political logrolling—the principle of “you vote for my appropriation and I’ll vote for yours”—is open to criticism. The development of the humanitarian spirit, of greater willingness to make sacrifices for the unfortunate, has had something to do with it, too. So has the unwarranted attitude that public bodies can increase their expenditures without adding to the burden on individuals. In the main, though, the decisive factor is this: As more and more of the things we do come to affect the public at large, more and more activities become legitimate fields for public enterprise. Such being the general outlook for the future, not only the character of public expenditures but also the manner of raising public revenue will probably become more and more important.

Public Revenues

In countries of good fiscal morals public borrowing is treated as deferred taxation. That is to say, funds raised at one time by borrowing are supposed to be repaid later out of the proceeds of taxation. To be sure, loans are often “refunded,” old loans being retired by means of new ones. But this means that lenders take incomes in exchange for lump sums; and the interest payments are supposed to come out of current taxation. On this understanding it is substantially correct to say that the source of public revenue is taxation. It is true that there are other sources. Public revenue may come from a government’s operation of railways, sale of tobacco, collection of foreign debts, sale of war supplies, sale of securities, receipt of gifts, or collection of fines and license fees. But in the United States these sources of governmental income are comparatively unimportant. The following discussion of public revenue will be limited essentially to an analysis of taxes.

NATURE OF TAXES

Taxes are compulsory contributions to the cost of government operations. Thus the main characteristics of taxes are two. First, payment is compulsory. Jones may refuse to ride on his government’s railways, or decline to buy tobacco or liquor sold by its monopolies, but he cannot avoid paying taxes. Second, the amount collected from any given taxpayer does not depend on the benefit which that taxpayer derives from the expenditure of the proceeds of the tax. A tax is not a *quid pro quo*, a “this for that.” Jones’s share of a special assessment to build a sidewalk

conforms roughly with the benefit which Jones is to enjoy from the improvement. Not so with his share of taxes. Taxes are collected to cover expenses incurred in the public benefit, and Jones's share of this benefit may either exceed or fall short of his taxes. Jones is not taxed for the benefit of any particular individual. He is not taxed for the specific purpose of sending Smith's boy to school, but neither can he get out of paying school taxes merely because he has no children of school age. Whatever benefits Jones and Smith receive are received by them indirectly as members of the community at large.

CHARACTERISTICS OF A GOOD TAX SYSTEM

Taken together, the various taxes imposed by a government on persons, companies, commodities, and so on, may be termed the "tax system." Such a system should be consistent with the political institutions and social traditions of the community. This means that the American tax system should possess the qualities necessary to three things: fiscal adequacy, justice, and harmony with the requirements of efficient production.

ADEQUATE REVENUE

First, the system should yield adequate revenue: enough revenue to perform such functions as are better performed by public than by private spending.

(a) The system must be flexible enough to adjust revenues to changing public needs. Thus it must consist largely of taxes whose yield can be changed by changing the tax base, or the rate of taxation, or both. For example, the yield of the personal income tax can be raised either by reducing the number of exempted persons or by raising the rates.

(b) The yield must be reasonably certain, or else the budget of expenditures and revenues will be thrown off balance. One of the objections to tariff revenue is its violent and uncontrollable fluctuation.

(c) Taxes should be convenient as to time and method of collection. In general, income taxes are convenient because they vary directly as income and are collected after the income is received.

(d) Taxes should be economical of collection. Convenience helps. So does simplicity. One argument against extending our federal income taxes to lower incomes is that going over millions of petty returns would cost the government more than the additional income. Avoidance and efforts to avoid make for waste. The stiffer the tax, the stronger is the incentive of the taxpayer to avoid and of the government to prevent

avoidance. The industrious development of cunning on both sides, although interesting enough, is costly.

(e) In order to be neither inadequate nor excessive, taxes should be consistent with the proposed expenditure of the proceeds. To illustrate, a government should not collect in one year the taxes required to buy trucks good for five years, but neither should it spend five years in raising taxes to pay for one year's supply of gasoline for the trucks.

JUSTICE

Second, the tax system should be just. It should not discriminate as between different persons of equal income. Further, it should tend to reduce economic inequality, or at any rate it should not aggravate inequality. Taxes should be based mainly on ability to pay. This proposition is of course implicit in the foregoing description of the nature of taxes. As a rule there is no estimating accurately the benefits conferred on particular persons or groups as the result of a given tax. There is, however, this broad conformity between "benefit received" and "ability to pay"—the ability to pay depends largely on benefits for which society as a whole is responsible. Such benefits as education, communication, money and credit, and the protection of private property, may be mentioned. But individual ability can be measured more accurately than individual benefit. Let us briefly consider the problem of measurement.

TESTS OF ABILITY

In earlier times "visible signs of wealth" in the form of general property served as the chief test of ability, and our local governments still get most of their revenue from property taxes. But there are two serious objections to this test. First, property is becoming increasingly "invisible." It is difficult to measure intangible values like patents or business good will. On the whole, taxes on wealth discriminate against tangibles in favor of intangibles, and against realty in favor of personalty. Second, personal wealth and personal income often fail to correspond closely. Thus, a salaried person having little capitalized wealth may have a comfortable income, while the owner of real estate in a growing city is likely to find the capitalized value of his property out of proportion to the income which the property actually yields.

Income is a better test than wealth. This is true in spite of the following difficulties in its practical application. Only net income is really income, but it is hard to figure the proper allowance for debts, depreciation, and losses. Since some incomes are less constant than others, it is not necessarily fair to tax two equal incomes at the same rate in a given

year. Unlike our own, the British income tax sometimes permits the averaging of income over a period of years. Justice also requires that a distinction be made between earned and unearned income. Allowance must be made, too, for the family obligations of the taxpayer. Income-tax laws typically arrange to tax unearned incomes more heavily than earned, and to allow exemptions for the dependents of taxpayers. The superiority of the income test is recognized in the tax systems of all great industrial countries.

PROGRESSIVE TAXATION

The proper application of the ability principle calls for *progressive* taxation. To illustrate what is meant, say that Black and White have equal obligations, but that Black's earned net income is \$2,500 while White's is \$5,000. The taxation of the two incomes could be proportional, or progressive, or regressive. If both incomes are taxed at the same rate, say 10 cents on the dollar, the taxation is *proportional*. If Black is taxed 10 cents on the dollar while White is taxed 10 cents a dollar on \$2,500 of his income and 8 cents a dollar on his other \$2,500, or at the rate of 9 cents a dollar on the entire \$5,000, the taxation is *regressive*. Such taxation hits the "poor" man's dollar harder than the "rich" man's. But if Black is taxed 10 cents a dollar while White is taxed 10 cents a dollar on \$2,500 and 12 cents a dollar on his second \$2,500, or 11 cents a dollar on his whole \$5,000, the taxation is mildly *progressive*.

Certainly White is able to pay the stiffer rate. After making payment he has \$4,450 left while Black has \$2,250. Proportional taxation would be a hardship on Black. It is harder for him to give up \$250 than for White to give up \$500. Regressive taxation would be still more unfair to Black. Or, even if we ignore the question of justice, it is still clear that a government faced with very large expenditures has to tax progressively, because it must get from its Whites what its Blacks cannot possibly spare. If it tried to burden the Blacks heavily, it would have to collect more from the Whites in order to support the Blacks. The progressive principle is universally recognized in the tax systems of civilized countries, although we still have to inquire how far the recognition really goes. The only question is *how* progressive should taxation be.

CONSISTENCY WITH EFFICIENT PRODUCTION

Third, the tax system should be on friendly terms with production. For one thing, it should not arbitrarily upset the relative outputs of different products by changing comparative costs. To illustrate—If a government imposes a specific tax of 10 cents a bushel on wheat, no

corresponding taxes being imposed on other products, the cost of wheat rises, and the output falls, in relation to other products. The discrimination creates an uneconomical balance among different products. For another thing, the tax system should not impair saving or decrease the incentive to produce. However, this statement is open to qualification. The meaning is not that the tax system must never impair *anybody's* ability or willingness to produce and save. The meaning is that it should not so penalize ability and willingness as to reduce production and saving by the economy as a whole. Further, there is more or less conflict between maximum production and an even personal distribution of national income. The practical problem created by this disharmony is that of reducing economic inequality with as little injury as possible to national output.

THE SHIFTING OF TAXES

To summarize—the tax system should meet the requirements of adequate revenue, a large and well-balanced national output, and a just personal distribution of that output. In so far as any tax in the system falls short of these requirements, the remaining taxes must make good the shortcoming. But in order to tell how well or badly any particular tax measures up to the requirements, we must know *who* and *what* actually pay the tax. The difficulty is that a tax does not necessarily stay where it is originally put. Some taxes are *shifted*. One result is that they are really paid, at least in part, by persons other than those on whom they are imposed. This affects the personal distribution of the national income. Another result is that the relative outputs of different products are changed. This affects the size and composition of the national income. In judging the effects of taxes, therefore, it becomes necessary to consider the principles of shifting.

Shifting, Diffusion, and Concentration of Taxes

Taxes may be shifted by affecting prices, that is, by affecting the supply or demand of the objects which are taxed. In order to outline the general principles of shifting, we shall begin with “specific” taxes. Roughly defined, a specific tax is one which falls on a particular object to the exclusion of other objects.

BACKWARD SHIFTING

Take first the case of “backward shifting,” or “backwardation.” The buyers shift the tax by decreasing either the price paid to sellers of

the commodity taxed or the prices paid to sellers of productive agents. To illustrate the latter process, suppose producers are taxed 5 cents a package on cigarettes. And assume that the land, labor, and so on, used in producing the raw materials that go into cigarettes cannot be readily turned to the production of anything else. Then the cigarette producers, by reducing their demand prices for the raw materials, can shift the tax back to the owners of the agents which produce the materials. But, as the agents will be mobile in the long run, this backward shifting cannot last.

A clearer case may be seen in taxes on fixed-supply income bearers. Suppose a permanent tax equal to half the annual rent is imposed on certain land. Of the land so taxed A owns an acre yielding a rent of \$20. He sells it to B. After assuming ownership, B pays the \$10 tax. Nevertheless, he shifts the burden back to A. He does this by paying A only half as much for the land as he would have paid had he not been obliged to give up half the annual rent. He is able to do it because the tax is specific: because other productive agencies in which he might invest his money are not similarly taxed. If the tax fell, not merely on all land, but on all productive agencies; B would not be in a position to shift the tax.

But the supply of the taxed object must be inelastic if backward shifting is to take place. And, as the supply of most things is elastic in the long run, backward shifting is of less practical importance than forward shifting.

FORWARD SHIFTING

To illustrate "forward shifting," or "forwardation," let us go back to our cigarette producers. As the producers of raw materials find alternative uses for their productive agencies, the backward shifting of the 5-cent tax has to stop. Thus the cost schedule of cigarette production rises 5 cents all along the line. Cigarette producers must charge more on account of the higher cost. In order to get more, they must reduce the output. To come out even, they must reduce the output to the point where the existing demand will take it at cost. But they can do this. They can afford to transfer productive power to other fields because the tax is specific, because the tax does not hit other products. If they are monopolists, they will still reduce the output, because, now that the tax has raised the cost schedule, it will take a smaller output than before to yield the maximum monopoly gain. Just how much the output will fall and the price will rise will depend on the character of the supply and demand schedules. On the supply side, the cost may be constant, increasing, or decreasing. And the demand may be either elastic or inelastic.

The general principle is this: A specific tax on a producible commodity is shifted forward from sellers to buyers by raising the price of the commodity, the rise of the price being caused by a real decrease of supply.

NONSHIFTABLE TAXES

In the foregoing cases it has been emphasized that the shifting takes place because the taxes are *specific*. In the case of land it was pointed out that the backward shifting would not occur if the tax fell on *all* fixed-supply productive agencies. That is to say, a *universal* tax would not be shifted backward. There would be nothing to change the relative demands for different fixed-supply agencies. Now we have to note that universal taxes on producible goods are not likely to be shifted forward. The reason is that a universal tax, a tax falling with equal weight on different products, tends to leave the relative supplies of different products undisturbed.

To illustrate, return once more to the case of the cigarette tax. Suppose that our tax, instead of falling on cigarettes alone, falls simultaneously and with equal weight on all producible commodities. Then our cigarette producers can *not* afford to reduce output by transferring productive agencies to other fields, since they will find corresponding taxation waiting for them wherever they go.

The principle is the same with a universal tax on net income. The tax hits all incomes regardless of the sources from which they come. Say that cloth producers have to pay such a tax. They cannot shift the tax to consumers of cloth without reducing the output in order to raise the price. And there is no way in which they can do this to their advantage. If they transfer investment to other fields, they will have to pay the tax on the incomes they receive there. If they simply reduce their incomes to escape the tax, they will lose more than they gain, since none of the income given up would have been taxed as high as 100 per cent. The tax may discourage the production of cloth by preventing the reinvestment of certain income in the business. But even this will not appreciably affect the price of cloth. The reason is that the distribution of investment among different industries is determined mainly by *relative* net returns, and the tax, being universal, does not affect relative net returns.

The principle is the same with a tax on pure economic profit. Such a tax, if it fell merely on the profits of producing a certain article, would tend to raise the price of the taxed article by causing investment to shift to any fields enjoying untaxed profits. But this is not the tendency if the

tax falls on all profits regardless of source.³ The principle is similar with a universal inheritance tax, or a tax imposed on inherited wealth regardless of the industry or occupation in which the wealth is acquired. If it is fair to assume that the chances of piling up inheritable wealth are about equally good from one field of production to another, then there is nothing in a universal inheritance tax tending to affect the relative outputs of different products.⁴ As the tax does not put the recipients of inheritances in a better position to charge more for anything they have to sell, only the prospect of the tax, and not the actual collection, would lead to shifting. And even the anticipation will not cause shifting unless it discourages the production of some commodities more than it discourages the production of others.

TAXES ON MONOPOLY GAINS

The case of a tax on monopoly gains is different. Such a tax could not be universal except on the assumption that all articles, or at least most articles, are monopolized. And yet the tax, even though specific, is not likely to be shifted. To indicate why, suppose a monopolist gains \$1,000 a year by restricting the output of cigarettes, thereby raising the price above the cost. Then neither a tax of a flat amount, nor a tax equal to a certain percentage of the gain, will induce the monopolist to restrict the output and raise the price more than before. Presumably the monopolist has already set the output where it yields the maximum monopoly gain. Thus a further restriction would reduce the monopoly gain; and the net gain, after the deduction of either of the two taxes, would be smaller than if the output had been let alone. Suppose monopoly gains in other fields were not taxed. This would do our cigarette monopolist no good. He could not shift the tax by transferring investment to these other fields, since the other monopolists would not let him in.

In this case a specific tax stays where it is put because it leaves the rate of return at least as high as it would be if output were further restricted by transferring investment somewhere else. On the same con-

³ It is true that the buyers of articles whose prices include pure profits pay the tax in the sense that they pay the prices which yield the profits. But this does not mean that the tax is *shifted* to them. They do not pay anything which they were not already paying before the tax was imposed. The sellers of the product, on the other hand, do pay something which they were not paying before.

⁴ Of course the chances are not equally good from one *occupation* to another. For example, entrepreneurs have better chances than laborers. But this alone would not affect relative outputs. To suppose that relative outputs are affected by the tax, it is necessary to assume that *entrepreneurs'* chances differ from one product to another, or that *laborers'* chances differ from one product to another. One may argue, for instance, that entrepreneurs do better in manufacturing than in farming, and that inheritance taxation might decrease the relative output of manufacturers by reducing the relative attractions of the industry.

dition, a tax on any "surplus" in excess of all costs of production would have the same result.

These are the more general principles of *shifting*. But it may be worth while to dwell for a moment on the problem of final *incidence*; namely, on the question of where a tax stops shifting and comes to rest.

WHERE TAXES COME TO REST

Most specific taxes *tend*, in one respect, to become diffused; in another, to become concentrated. That is, they tend to shift from one elastic price to another until they come to inelastic prices, where their burden is concentrated. A "processing" tax on wheat may serve to illustrate what is meant. Paid by the millers, the tax enters into the cost of flour, thus reducing the supply and raising the price. This increases the cost and price of bread and pastry, thus raising the cost of living. The increase in the cost of living may raise the wages of organized laborers, thus raising the prices of other materials and products, thus passing the tax along to other buyers, and so on. The greater the number of prices affected by a tax, parts of which are passed on from product to product, the smaller the effect on any particular price. In this respect our tax is diffused. But the shifting stops wherever it gets to sellers who cannot recoup any of it by reducing outputs and raising prices. In this respect our tax is concentrated.

Whenever any fresh tax of this sort is imposed, therefore, the burden tends to fall most heavily on those who are in the worst position to raise the prices of what they have to sell. Some of the leading sufferers will be laborers, the owners of highly durable capital goods, landowners, and monopolists. But if left in operation indefinitely, the tax will eventually cease to discriminate, because the prices of all goods will become adjusted to it. For instance, the price of land will be held down enough to make up for the fact that the buyers of land will have to pay more of the tax than people in general do. By reasoning similar to this, an economist named Canard once decided that "every old tax is good; every new tax is bad." He meant that a tax discriminates when it is new but does not do so when it is old.

Doubtless this is the *tendency*. But in a changing world it is unsafe to rely on the tendency. In reality, only the disapproval of new taxes is warranted, and it is warranted only if the new taxes are shiftable. Even if shiftable taxes do not change, changes in other conditions alter the distribution of their burden. As public expenditures increase more than national income, however, taxes also increase. There are bound to be "new taxes," in this sense. In order to play it safe, a tax system should be composed mostly of unshiftable taxes.

We are now in position to compare the character of our actual taxes with the characteristics of good taxes.

The American Tax System

In recent years our local governments have been collecting not far from twice as much tax revenue as the states have, and federal collections have been not much behind those of the localities. In 1936, for example, collections by all three came to 16.4 per cent of the national income; by Washington, to 6 per cent; by localities, to 6.8 per cent; and by states, to 3.6 per cent. It remains to review the essential character of the leading taxes by means of which the revenue is raised.

GENERAL PROPERTY TAXES

Taking state and local governments together, taxes on general property represented by all odds the most important item. These taxes do violence to the ability principle in several ways.

First, about three-fourths of all the property which they reach consists of land and buildings, comparatively little effort being made to assess personal property. Those who receive their income from real estate are penalized for the benefit of those whose income is derived from such sources as personal property, salaries, and professional services. Among the most unfortunate victims of this discrimination are farmers. And the situation tends to grow worse as economic development makes national income as a whole grow faster than the income from realty.

Second, it often happens that the general property tax causes double taxation by hitting both real property and claims to such property. For example, a corporation is taxed on land and buildings while the holders of its securities are taxed on these claims to the land and buildings. Again, a tax may fall on land and another on the mortgage which is secured by the land. The borrower is hit by the second tax as well as the first, since the mortgage tax has the effect of raising the rate of interest which he pays to the lender.⁵

Third, the assessment of property is unfair. As a rule, the assessors represent townships; they are inexperienced and are elected by the same township voters whose property they have to assess. Their valuations influence the amount of property taxes going to both locality and state. State tax commissioners seldom use the power, even where they have it, to revise assessments or remove assessors. Within each locality, properties

⁵ Other leading forms of double taxation are the taxation of the same bequest by more than one state; and the taxation of the same income by the state in which the income receiver lives and by the state containing the business which yields the income.

of low value are generally assessed more stiffly than properties of high value. As between localities, assessments are as unequal as the distribution of political pressure and the merits of assessors. Assessments, even when made in complete good faith, are rendered unfair by the sheer practical difficulties of estimating values. The appraisal of property taking such forms as oriental rugs, antiques, goods in process, and inventories, will illustrate the point. At best, general property taxes are unsystematic and regressive.

The most important sources of federal revenue are income taxes, estate taxes, and commodity taxes. A great deal of revenue is raised by customs duties on imported commodities. But much more important is the revenue derived from domestic taxes on liquor, tobacco, and certain manufactures.

INCOME TAXES

Federal income taxes are imposed on personal and corporate incomes. Both the personal and the corporate taxes are wanting in the virtue of simplicity. Both possess the virtue of being, for the most part, "direct," or unshiftable. They are universal, being collected without regard to industry or occupation.

The personal income tax is certainly progressive. It is made so in two ways. First, certain amounts of net income are exempted from taxation. In 1940, for example, \$800 of the income of an unmarried person was exempt, as was also \$2,000 of the income of a married couple, further exemptions of \$400 each being allowed for dependents. It has been customary, too, to allow an "earned income credit," a deduction now amounting to 10 per cent of any earned net income up to \$14,000. The general effect is to grant a tax-free minimum to persons of low income. Second, incomes above this minimum are subject to two kinds of tax—a "normal tax" and a "surtax." The former is proportional, amounting to a moderate and unchanging rate of taxation on income regardless of size. The latter is progressive, the rate of taxation rising with increases of income.⁶ As a whole, therefore, the personal income tax is based on the ability-to-pay principle.

The corporation income tax is different. It is progressive as far as *corporations* are concerned. (It resembles the personal income tax in

⁶ To illustrate by the Revenue Act of 1936: The normal tax was at 4 per cent. The surtax began with excesses over \$4,000 of taxable income. It progressed regularly until the excess became more than \$10,000. The surtax was 4 per cent on the first \$2,000 of excess, 5 per cent on the next, and so on, until it reached 9 per cent for the fifth. After that it progressed irregularly, and more and more slowly, up to 75 per cent on any taxable income in excess of \$5,000,000. Progressive taxes which progress at a declining rate are called "degressive." Our personal income tax has always been degressive.

progressing at a declining rate—in being “degressive,” as the technical term has it.) But this does not mean that it is progressive to the *stockholders*. To them, it is proportional. That is, deductions from dividends, in the case of any particular corporation, are at the same rate for poor stockholders as for rich ones. The tax is not even progressive as between stockholders of *different* corporations, since there is no reason to suppose that dividend rates are higher for the many stockholders of a large corporation than they are for the few stockholders of a small corporation. Besides failing to apply the progressive principle to stockholder income, such a tax really discriminates against large corporations and the types of enterprise in which they characteristically engage.⁷

In 1939 the federal corporation income tax raised not far from one-fifth of all federal tax revenue. Consequently the shortcomings of the corporate income tax must be regarded as serious. As the fateful 1940's were approached, roughly one-fifth of federal tax revenue was being raised by progressive taxation on personal incomes and one-twelfth by progressive taxation on estates, or inherited wealth. On the other hand, roughly one-fifth was being raised by unprogressive taxation on corporate incomes, and another one-fifth by commodity taxes which were as a whole unprogressive.

ESTATE TAXES

The federal tax on estates, or inherited wealth, brought in some 382 million dollars in 1938. For reasons already indicated this tax is not likely to be shifted or to discriminate against any particular industry or occupation. Above a liberal exemption it progresses at a declining rate. A tax on gifts is imposed to prevent evasion of the estate tax.

COMMODITY TAXES

Using rough averages, well over half of the federal revenue from commodity taxation came from taxes on liquor and tobacco (split about evenly between the two), one-fifth came from “manufacturers’ excise taxes,” and perhaps one-seventh from customs duties imposed on a wide variety of imports. The excise taxes in question fell on such “luxuries or semiluxuries” as automobiles, automobile tires, radios, phonograph

⁷ Apparently it does not discriminate against the *stockholders* of such corporations, since the value of shares, and with it the dividend rate, tends to become adjusted to the discriminatory taxation of the corporation itself. Further, its inequities tend to be corrected by means of the *personal* income tax, which is progressive. But it does discourage corporations from being large, or investment from entering fields to which large corporations are best suited, or both.

records, mechanical refrigerators, and toilet preparations. It is fair to doubt that even these taxes are progressive. The question is not whether the buyers *must* buy the articles on which the taxes fall. The question is whether, in actual practice, a larger proportion of the rich man's income than of the poor man's income *does* go for automobiles, radios, and so on. If it is the other way around, the taxes are regressive. Certainly it is the other way around in the case of tobacco and liquor, the taxes on which raised more than two and one-half times as much federal revenue as did the excise taxes. Customs duties fall on such a great variety of commodities that, taken as a whole, they probably amount to roughly proportional taxation. The remainder of the federal commodity taxes have been highly specific and shiftable. Largely for the sake of administrative convenience, they have been confined to the sale of a comparatively small number of commodities of wide general consumption. Taken as a whole, federal taxation on commodities has been regressive.

SUMMARY

On the whole, the picture of our tax system is nothing to inspire pride. The inclusion of a number of other taxes—special property taxes, poll taxes, state taxes on motor fuel and motor vehicle licenses, business license taxes, and the like—would not change the picture much for the better. Less than a tenth of state revenue comes from progressive taxes. State and local taxes together are predominantly regressive. In recent years the development of progressive state income taxes has been accompanied by the growth of regressive state sales taxes.

The story is somewhat similar with federal taxes. In 1920 about 60 per cent of the federal revenue was raised by taxes on personal and corporate incomes. In 1940 the proportion was much smaller. Omitting the corporation income tax, for reasons discussed above, only the taxes on personal incomes and on estates and gifts were progressive. Federal revenue came predominantly from taxes which were more or less regressive in their effects. The bulk of our federal, state, and local taxes are not only "indirect." They are not only shifted. They are shifted in the general direction which runs from large incomes toward small incomes, and the balance among different types of products is shaped correspondingly.

Taxes Versus Loans

In conclusion, we shall consider certain questions of general principle which are made practically important by heavy public borrowing. A government, like an individual, may be justified in borrowing in order to

make either of two general types of expenditure. The first is an expenditure which pays for itself. Thus a city may borrow to buy an electric power plant which yields enough net revenue to take care of interest on the loan. The second type of expenditure is one which, although it does not pay for itself, is non-recurrent, or of an emergency character. When a loan is floated for such a purpose, taxes should be increased enough during the emergency itself to cover the interest on the loan. Later they should be increased enough more to "amortize" the loan, that is, to pay off the principal, within a reasonable length of time. Unless the loan is retired soon enough to prevent other emergencies from increasing the public debt, it is fair to call the amortization period too long. The main emergencies calling for such loans to national governments are those created by wars and by depressions. The World War added about 24 billion dollars to our national debt, raising it to some 25 billions in 1919. By 1930, about 10 billions of this debt had been retired. Throughout the 1930's, however, federal borrowing to meet depression expenditures occasioned deficits which raised the debt to roughly 40 billions; and then the huge increase in defense expenditures which followed the defeat of France in 1940 was financed so largely by borrowing that the debt had already passed 50 billions in 1941. How high the war will drive the debt depends on the volume of military expenditures and the extent to which such expenditures will be financed by borrowing. Thus, if half of an outlay of 100 billions were financed by long-term loans, 50 billions would be added to the debt.

Our "national" debt does not really mean that the *nation* is in debt. The debt is internal. It is owed by Americans as a whole, not to the people of other countries, but to Americans who hold the debt certificates (mainly bonds) of their government. Since the bondholders are also taxpayers, the taxes necessary to pay the debt would be collected in large part from the same Americans who would receive the payments. Thus the debt does not, in a direct way, make the American people poorer. It might do so indirectly, if it became large enough, by impairing public and private credit. On the reasonable assumption that huge current expenditures will not be financed either exclusively by current taxation or exclusively by current borrowing, the question before us becomes this: Should we put more emphasis than formerly on *immediate* taxation, on "paying as we go," and less on loans, which are presumably to be retired by *future* taxation? Much depends on the purpose of the borrowing. Thus it makes a difference whether the borrowed funds are spent on war or on depression.

WAR BORROWING

About two-thirds of the expenditures of Britain and America on the First World War were met by borrowing. Such a heavy use of loans had unfortunate effects. Immediate taxation would have put relatively more of the cost burden on the rich. As borrowing defers taxation, and as people are more easily reconciled to progressive taxes during a war than after it, the borrowing had the effect of making taxation less progressive than it should have been. Borrowing also raised the price level. Public borrowing increased more than private borrowing declined; and the net expansion of currency came during a time of intense economic activity, so that there was no slowing down of the circulation rate. Since it was mainly governments which first commanded the additions to credit, the buying power of dollars and pounds declined in the hands of individuals, rich and poor alike, without compensating increases in the amounts of money held by individuals. Therefore government inflation had the effect of proportional taxation.

Further, the borrowing eventually interfered with production. As long as there was any available "slack," any usable resources not yet in use, rising prices stimulated production. Under the circumstances, however, the slack soon disappeared. Thenceforward the continued rapid rise of prices, especially after the War was over, had all the unhappy results discussed in Chapter XX. If we ignore the effect of tax-exempt bonds, and if we further ignore the discouraging prospect created by a huge national debt and heavy postwar taxes, it is still clear that a larger part of the expenditures should have been met by current taxation. That this could have been done is indicated by the fact that two-thirds of the funds raised by Britain in the last year of the War came from taxes.

As a means of increasing tax revenue in wartime, J. M. Keynes, a noted British economist, proposed a combination of two features: first, that the exemption limit be pushed down to an abnormally low level (for example, as low as an income of \$360 a year for an unmarried person in England); second, that after the war taxpayers be repaid in inverse ratio to the sizes of their incomes. In the Keynes version, the plan would be superimposed on existing income taxation: the government would raise so much by the income tax, plus so much more by the "compulsory saving," or "deferred pay," plan. Revenue raised by the latter plan would be put in savings institutions, where it would be borrowed by the government. During the war the owners of the accounts would be unable, except in certain emergencies, to touch the principal or the interest. After the war, the poorer you were the more of your account

you would get back. Several advantages were claimed for the plan. First, it was a politically expedient method of getting larger contributions from the poor. Second, it would tend to obviate inflation, since the funds for the deferred payments would come from compulsory saving out of existing incomes: the government would be borrowing from personal savings instead of inflating credit by borrowing from the banks. Third, the making of deferred payments after the war would serve to reduce economic inequality and to revive business.

DEPRESSION BORROWING

As a means of financing large emergency expenditures during depression (we are now dealing with methods of raising revenue, not with the merits of the methods of expending the revenue), the effects of borrowing differ from those of wartime in two respects. First, depressiontime taxes are less progressive than postdepression taxes. During a depression there is a marked increase in the use of various indirect taxes which are really regressive. The most logical way to avoid these taxes would be to raise the money by income taxation instead. The personal income tax should be readjusted, all along the line, to the increased purchasing power of the dollar. But this expedient, as it would lower the income-tax exemptions, would excite popular resentment; and government officials are right in judging that there would be less uproar about concealed taxation. The result is that deferred taxes will be more progressive than immediate taxes are; and therefore borrowing, since it amounts to deferred taxation, plays into the hands of the poor.

Second, borrowing causes a much less pronounced rise of prices than that which occurs during war. Business activity is at low ebb, and not even government pump priming has proved itself capable of overcoming the sluggishness of money's circulation. At the same time the amount of industrial slack is so huge as to make it highly desirable that business should be revived by rising prices. Where it is assumed, therefore, that certain funds are to be spent for the relief of unemployment, and with the hope that business activity will be revived as an indirect result, there is a strong case for borrowing during depression. However, the loans floated during depression presumably should be retired during prosperity.

Conclusion

In its whole impact on the production and personal distribution of wealth, the machinery of government finance may be regarded as a sweeping substitution of public for private initiative, as a means of modi-

fying the content of private property rights on a huge scale. The next two chapters deal with governmental restraint of trade which crosses national boundaries.

PROBLEMS

1. Describe the general trend of public expenditures.
2. Explain the difference between public revenue and national income.
3. "It is to be expected that population growth and economic development will cause an increase of public expenditures; but the fact that our public expenditures are increasing faster than our national income is evidence of governmental extravagance." Discuss.
4. "Like an individual, a country becomes poorer just in so far as expenditures are met by borrowing." Discuss.
5. "Our rising public expenditures, if not evidence of increasing national poverty, are at least evidence of growing socialism." Discuss.
6. Briefly describe and criticize the distribution of our public expenditures. As to distribution, what are the significant points of contrast between federal expenditures and local expenditures?
7. Essentially what is a "tax"? Distinguish between (a) taxes and tolls; (b) taxes and special assessments.
8. "A tax system should yield adequate revenue, should be just, and should encourage production." Explain.
9. Explain the general characteristics necessary to the fiscal adequacy of a tax system.
10. Explain the general characteristics necessary to making a tax system just.
 - (a) Can a sharp distinction be drawn between "ability to pay" and "benefit received"? Explain.
 - (b) Can it be known whether a shiftable tax conforms with the ability principle? Explain the nature of the problem.
 - (c) With respect to justice, compare proportional taxation, progressive taxation, and regressive taxation.
11. "With respect to the effects on national output, direct taxes are in general preferable to indirect taxes." Do you agree? Explain.
12. "A universal tax on sales is not likely to be shifted forward."
 - (a) What is meant by "universal"? By "forward"?
 - (b) Do you agree with the statement? Explain.
 - (c) Supplying your own illustration, contrast this case with the case of a specific tax on sales.
 - (d) Which adjective would better fit our federal taxes on commodities, "universal" or "specific"? Why?
13. Are the following taxes likely to be shifted forward? Explain in each case. (a) A personal income tax? (b) A tax on profits? (c) A tax on monopoly gains? (d) An inheritance tax? (e) Import duties?
14. (a) If a permanent tax equal to 10 per cent of the annual rent is imposed on a particular site, is the tax likely to be shifted backward? Explain.

(b) Would it make any difference if the tax were applied to all rent-bearing land? Explain.

(c) What would you say if the tax were applied to all productive agents? Explain.

15. Compare our federal *personal* and *corporate* income taxes with respect to (a) shifting; (b) progressiveness; (c) effects on national output.

16. Discuss critically, first the leading individual taxes of our tax system, and then the tax system as a whole. Include the following taxes in your discussion: (a) income taxes; (b) estate taxes; (c) excise taxes; (d) customs duties; (e) general property taxes.

17. Discuss the comparative merits of taxes and loans (a) for financing the emergency expenditures of a great war; (b) for financing the emergency expenditures of a great depression.

18. Does a "capital levy" mean a levy based on capital or does it mean a levy paid out of capital? Explain. Discuss the comparative merits of a capital levy and ordinary taxation for taking care of an internal debt greatly swollen by wartime or depressiontime borrowing.

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XXX

INTERNATIONAL ECONOMIC COMPETITION: *BASIS AND FORMS*

A country can combine several ambitions successfully; but four she cannot achieve simultaneously: she cannot be a creditor from the past; a reluctant importer; a great exporter; and a reluctant lender of new money.—SIR ARTHUR SALTER.¹

WHEN THE American philosophy of free competition is put down side by side with the actual history of trade within our territorial borders, it becomes clear that the "invisible hand" has lost more and more ground to restraint of trade. What we now have to investigate is the fact that trade between countries is subject to even more formidable restraint. In spite of our presumed belief in a fair field and favor for none, we discriminate against foreign competition just because it is foreign. After a brief review of the general character of world trade, and of the financial mechanism of foreign exchange through which it is carried on, we shall be in a position to study the practice and theory of the international competition which is loosely termed "economic."

General Character of World Trade

World trade, unless it is interpreted so broadly as to include the migration and repatriation of people, consists in the international movement of three closely related things—ordinary commodities, services, and capital.

COMMODITIES AND SERVICES

First in order of importance is the trade in commodities. Estimating in terms of pre-Roosevelt dollars backed by 23.22 grains of pure gold, this trade had a value of about 69 billion dollars in 1929. But in 1934 the value was only one-third what it had been in 1929, and the physical

¹ *Recovery: The Second Effort*. New York: D. Appleton-Century Company, Inc., 1932, p. 89.

volume was only two-thirds.² Three broad types of commodities trade are distinguishable. Before the beginning of the Industrial Revolution, the most important type was the exchange of temperate-zone for tropical products. In the twentieth century the first rank was occupied by the exchange of industrial products for foodstuffs and raw materials. Finally, there is the exchange of industrial products for other industrial products. In this type of trade, production goods are normally more important than consumption goods. In 1940, over four-fifths of our American exports consisted of industrial products, while half of our imports consisted of raw materials and foodstuffs.

Of the total world trade in 1938,³ 24 per cent related to foodstuffs, 36 per cent to raw or partly manufactured materials, and 40 per cent to manufactured articles. At this time four groups accounted for more than half the whole trade: the Netherlands and her oversea territories, for 5.1 per cent; France and her oversea territories, for 6.8 per cent; the United States, for 10.7 per cent; and the British Commonwealth, for 29.7 per cent. Our foreign trade in merchandise was distributed as follows:

PERCENTAGE OF	EUROPE	LATIN AMERICA	ASIA	NORTH AMERICA	AFRICA	OCEANIA
Our imports from	29.9	24.8	28.1	13.6	2.8	0.8
Our exports to	43.3	18.2	16.3	15.4	3.8	3.0

While we export only about 10 per cent of our total annual product, we export high percentages of particular products. For example, we send out about two-thirds of our cotton, two-fifths of our tobacco, two-fifths of our refined copper, and over a fourth of our agricultural implements. Any rapid restriction of our foreign trade must impose especially serious hardship on industries depending so strongly on export markets.

Almost indistinguishable from the movement of "commodities" is the international movement of certain "services." A part of the exports of the United Kingdom, for instance, is made up of the sale of shipping services, insurance services, and services rendered to tourists from abroad.

CAPITAL

International "capital" movements consist of the transfer of investment from country to country. In the first instance they consist of transfers of "funds," or financial purchasing power. The importation of funds tends to increase the monetary demand for real capital, such as raw materials and machinery, in the importing country. The nature of the

² According to the League of Nations, Economic Intelligence Service, *Review of World Trade*, 1934.

³ League of Nations, Economic Intelligence Service, *Review of World Trade*, 1939.

demand depends, in general, on the time period covered by the loan or investment.

Short-term capital movements ordinarily relate to the financing of relatively perishable goods. (There are also considerable amounts of short-term bankers' balances, and some short-term investments held by individuals.) As noted in Chapter VI, the medium of exchange used in foreign trade consists mainly, not of "hard money," but of drafts called "foreign bills of exchange." Drafts covering transactions in ordinary commodities run for short periods such as thirty, sixty, or ninety days. During this time the original drawer usually "discounts" the draft, namely, sells it to a bank or discount house, which collects it when it comes due. In passing, it should be noted that the sudden withdrawal of large short-term balances is likely to put a serious financial strain on the country losing the balances.

Long-term capital movements, on the other hand, relate to investments in railways, mining, factories, and the like. There are two leading types, the "indirect" and the "direct." The indirect, or "portfolio," investments are merely loans. The lenders do not assume ownership and management of the enterprise in which the investment is put. For example, Englishmen lend to an American railway by buying its bonds. In the case of direct investments, ownership and management go along with the investment. To illustrate, an American automobile corporation establishes a branch factory in England, or a foreign syndicate builds a railway or buys a mining property in China.

In the matter of long-term private foreign investments, Britain and the United States are far in advance of other countries, although France, Switzerland, and Holland also export a great deal of capital. At the end of 1936 American investment of this character was estimated by our Department of Commerce at more than twelve billion dollars. Of this total, over three-fifths was in the form of direct investments. Our three greatest investment outlets were, first, Canada and Newfoundland; second, Europe; third, South America. Our direct investments were greater, however, in South America than in Europe. The incentive to private foreign investment is commonly supposed to be the prospect of a higher rate of return than would probably be secured at home. But we shall later have occasion to observe that "power politics" plays a large and unfortunate part.

Foreign Exchange

In the conduct of foreign trade, there is an *exchange* of the national money of the buyer for the national money of the seller. To illustrate—

the Englishman who sells woollens to an American does not want dollars. He wants pounds sterling—"sterling" for short. Therefore the American, instead of exchanging dollars directly for woollens, first buys sterling with dollars and then exchanges the sterling for woollens. Such an exchange of one national money for another is called "foreign exchange." Suppose an American tourist in a British port trades his American money for British money at a bank. That is a transaction in foreign exchange. As a rule, however, foreign-exchange transactions do not involve the exchange of the actual currency of one country for that of another. Instead, they involve the transfer of bank credit from one country to another. The transfer is effected by means of "commercial" or "bankers'" bills of exchange. For instance, our American buyer of British woollens buys from his own bank a banker's bill of sterling exchange with which to pay. Or the British seller, if he takes the initiative, draws a commercial bill of exchange against the American.

Although the main purpose of the present chapter and the next is that of considering the restraints imposed on competition which crosses national boundaries, the central thesis may be clarified if we first deal briefly with the essential principles of foreign exchange. As far as these principles are concerned, the discussion will be simplified by assuming that foreign exchange is confined to two countries. For short, call the two countries England and America.

MEANING OF A FOREIGN EXCHANGE RATE

A rate of foreign exchange means the price of bills of exchange payable in a given foreign country. In America, the exchange rate on England, that is, the sterling rate, means the price in American dollars of a one-pound sterling bill of exchange. We shall take the rate on bankers' sight bills, or drafts payable on sight, as being the basic rate of exchange.

DETERMINANTS OF THE BASIC RATE

The sterling rate is determined fundamentally by the demand for and the supply of sterling bills. An increase of demand tends to drive the rate up; an increase of supply, to drive it down. When we wish to know how various operations will affect the sterling rate, it is necessary to note carefully whether it is the supply of sterling exchange or the demand for it which is affected. This simple rule can be followed: Any operation taking funds from America to England increases our demand for sterling, and any operation bringing funds from England to America increases our supply of sterling. (Or, if we wish to take the English

point of view, the first sort of operation increases the English supply of dollar exchange and the second increases the demand for dollar exchange. However, for purposes of American students, it may be wise to stick rather closely to the American point of view.)

To put this in another way, demand is created by *imports* and supply by *exports*. Imports and exports can be either "visible" or "invisible." Our imports of ordinary English commodities are called visible because they pass through our custom houses, which keep account of them. Invisible imports consist of our purchases of English insurance, shipping services, and so on, and of the purchases made by our tourists in England. Similarly, visible exports consist of our exports of ordinary goods, and invisible exports of our sales of various services.

To illustrate changes of supply and demand: An American railway borrows from English investors by selling its bonds to them. The transaction brings funds from England to America. It increases the American supply of sterling exchange, because the American borrower directly or indirectly draws sterling bills on English lenders. The sterling rate tends to fall as a result. When it comes time to pay interest on the loan, the situation is reversed. The sterling rate rises when the demand outruns the supply, and it falls when the supply outruns the demand.

Foreign exchange dealers, or bankers, play an important part in the determination of the rate of exchange. American exporters draw sterling drafts on the corresponding British importers, and they typically sell these drafts to American exchange bankers, who in their turn, upon collecting the drafts, typically establish balances with English banks. American importers buy sterling drafts from American exchange bankers, who are in a position to sell such drafts because of the balances which they carry in England. When our exports exceed our imports, our exchange bankers normally buy as much sterling exchange as our exporters have to sell, but they buy at a "discount"—at a price lower than that which would prevail if exports and imports were equal. When our imports exceed our exports, our exchange bankers normally sell as much sterling exchange as our importers care to buy, but they sell at a "premium"—at a price higher than that which would prevail if imports and exports were equal. Thus our exchange bankers carry over exchange from a time of surplus exports to a time of surplus imports. They can meet an increased demand for sterling also by shipping gold to England. The amount of a discount or premium is affected not only by bargaining but also by short-run loan rates. To illustrate, suppose that American loan rates are high in comparison with the rates which our exchange bankers can secure on balances which they establish in England. In that case there

tends to be a comparatively heavy discount on the sterling exchange which they buy.

EXCHANGE RATES ON THE GOLD STANDARD

Exchange rates between gold standard currencies fluctuate only within very definite limits. To illustrate, consider the rates of exchange between American and English money from 1873 to 1914, a period in which the gold standard prevailed throughout the most important trading countries of the world. The sterling rate, in American money, could move only a limited amount above or below *mint par*, or parity. Mint par was simply the ratio of the amount of gold behind the American dollar to the amount of gold behind the pound sterling. (Before the World War, mint par referred to the relative amounts of gold in the standard moneys of the two countries. Since the war, as gold money has been withdrawn from circulation, mint par refers to the relative amounts of gold into which paper dollars and paper pounds can be converted for purposes of export.) The dollar was backed by 23.22 grains of pure gold, and the pound by a trifle over 4.86 times this much gold. Thus the sterling par was 4.86, or \$4.86. (The dollar par, as seen by Englishmen, was $1/4.86$ of one pound sterling.)

Now, the range within which the sterling rate could deviate from par depended on the cost of moving gold between the two countries. This cost set the so-called "gold points," or "specie points," of which we shall speak in a moment. The cost of moving gold consisted mainly of freight charges, insurance charges, and loss of interest during the time when gold was being shipped, varying with changes in these items. Assume that the cost, at a given time, amounted to \$.04 per pound sterling of gold. Then the upper limit of the sterling rate, or "gold export point," was par plus four cents, and the lower limit, or "gold import point," was par less four cents. Say that an American owed an Englishman one pound. The most the American would give for a one pound bill of exchange was par of \$4.86 plus the shipping cost of \$.04, or \$4.90 all told. Rather than pay more, he could afford to have a pound sterling of gold bought and sent over to his creditor. Or say that an Englishman owed an American a pound sterling. The American drew on his debtor for the amount, and the least he would take for his draft was par less the cost of sending the gold, or \$4.82 all told.⁴ Only rather heavy and per-

⁴ It is not necessary to suppose that the American bore the cost of importing the gold. Gold was not exported from England until the dollar rate reached the gold export point over there. When it did, however, the sterling rate in America had to be down to the gold import point. This is because the two rates were two sides of the same thing—the more English money a dollar cost, the less American money a pound cost. Thus the gold import point in America can be interpreted in terms of the gold export point in England.

sistent credit or debit balances drove exchange rates far enough from par to cause the shipment of gold.

Of course a heavy and persistent import balance of trade in America, taking both visible and invisible items into account, raised the sterling rate to the gold export point and caused gold to flow out. But this did not mean that there was need to fear a serious drain of gold in the long run. As explained in Chapter IX, trade is reciprocal: it is an exchange of goods for goods, including "services" in "goods." If our imports sometimes exceeded our exports, our exports exceeded our imports at other times. For example, gold flowed out during the early part of the year, but in the autumn, when our crops were exported, the current of the gold stream was reversed. This current was checked, arrested, before it was reversed. One check began to operate even before any gold flowed out. That is, the rise of the sterling rate encouraged Americans to export and discouraged them from importing. If the sterling rate nevertheless rose to the gold export point and gold began to flow out, another check was brought into operation. American bank reserves fell and English bank reserves rose. Hence loan rates tended to rise here and to fall there. This applied a check to the lending of American funds in England. The change in loan rates also tended to raise prices in England and depress prices in America. At least it checked the fall of English prices and the rise of American prices, thus arresting the westward flow of goods and the eastward flow of gold. In these ways the currents of foreign trade and international gold movements were held in restraint.

EXCHANGE RATES ON PAPER CURRENCIES

When the gold standard is suspended—when debts arising out of international trade are no longer paid in gold—the fluctuation of exchange rates ceases to be limited by the cost of shipping gold. In this situation, exchange rates tend to be determined by the relative purchasing powers of different national currencies. To illustrate, begin by assuming that England and America are on the gold standard, the sterling par being \$4.86. Next both countries expand their currency so much that they do not have enough gold to back it up. But England carries this "depreciation" twice as far as America does. Thus, the dollar is depreciated until it buys only half as much as before, while the pound is depreciated to one-fourth its former buying power. Par is now determined, not by the comparative gold backing, but by the comparative purchasing power of the two currencies. In other words, par becomes the "purchasing power parity." Since the purchasing power of the pound has been cut to one-fourth, and the purchasing power of the dollar to only one-half, it

now takes only half as many dollars to buy one pound as it formerly did. Thus the new sterling par is $\frac{1}{2}$ of \$4.86, or \$2.43.

It is fair, however, to note a number of qualifications to this highly simplified statement of the matter. First, the purchasing power parity is merely the "normal" rate of exchange—the "normal" dollar price of pounds, or the norm around which the actual dollar price fluctuates in response to fluctuations in the demand and supply of sterling exchange.⁵ Second, various obstacles to trade, such as tariffs and quota restrictions, are likely to make the exchange rate an inaccurate expression of the comparative purchasing powers of the two currencies. Third, the task of estimating the comparative purchasing powers will be rendered difficult by the fact that the prices of different goods, in each country, will not change to the same degree. Especially will the prices of goods and services entering into international trade prove more responsive to currency changes than will the prices of other goods and services. Fourth, the exchange rate will be subject to the play of speculative influences. Thus, if exchange dealers think an early return to gold highly probable, the exchange rate will tend to swing toward the gold parity which it is expected will be established. Fifth, the operation of an exchange stabilization account, used largely for the purpose of checkmating speculative influences, may have much to do with the determination of the exchange rate. Finally, either or both of the countries might undertake deliberately to manipulate the exchange rate in order to gain a competitive advantage in the sale of goods.

OVERVALUATION, UNDERVALUATION, AND "EXCHANGE DUMPING"

The example used in the first paragraph of the foregoing section will serve to illustrate the meaning and consequences of incorrect valuations of national currencies. We have assumed that sterling has dropped from \$4.86 to \$2.43. Now, unless English internal prices have risen just twice as much as American internal prices—unless, in comparison with American prices, English prices have precisely doubled—the new exchange rate of \$2.43 either undervalues the pound (overvalues the dollar) or else it overvalues the pound (undervalues the dollar). Suppose English prices have not so much as doubled, in comparison with American prices. Then \$2.43 is less than the real purchasing power parity, and it undervalues the pound and overvalues the dollar. Americans can buy pounds at half the former dollar price, but they do not have to pay so much as twice the

⁵ Or such variations could be treated, not as fluctuations around the norm, but as changes of the norm—the purchasing power parity—itsself. The same observation holds for the effects of speculative influences.

former sterling prices for British goods. If, on the other hand, English prices have more than doubled, in comparison with American prices, \$2.43 is more than the real purchasing power parity, and it overvalues the pound and undervalues the dollar. Americans have to pay half the former dollar price for pounds, but they are required to pay more than twice the former sterling prices for British goods. Cases of this sort happen in practice. From 1928 to 1931, pounds were overvalued in terms of dollars and dollars undervalued in terms of pounds. This situation was reversed in 1932-1933, pounds being undervalued and dollars overvalued. One of the consequences of incorrect valuation is encouragement to the exports of the country whose currency is comparatively undervalued.

To illustrate, assume that English currency is being expanded, or "inflated," in comparison with American currency. Some purchases which Americans otherwise would have made in America are made in England instead, because the cost of English goods to American buyers falls. The explanation of the falling dollar cost of English goods is this: The dollar price of pounds falls, because there are comparatively more pounds and fewer dollars than before. At the same time, the sterling prices of English goods rise, because of the increasing number of pounds being exchanged for English goods. But English prices rise less quickly than the sterling rate falls. Several factors make for a sluggish movement of domestic prices. Costs rise slowly because wages, rents, and interest charges are made inflexible by custom and standing contracts. Retail prices, strongly influenced by habit and tradition, lag behind wholesale prices, and this helps to hold down labor costs. Exchange rates, on the other hand, are very responsive, because they refer to large transactions and are the business of alert exchange dealers and foreign traders. For example, dealers who buy bills running thirty, sixty, or ninety days are quick to make allowance for price changes which they expect to have occurred by the time the bills fall due. Thus, with the sterling rate falling faster than the sterling prices of English goods rise, the dollar costs of English goods fall, and English exports are stimulated. This is commonly called "exchange dumping," since it amounts to selling English goods cheaper abroad than at home. When the comparative inflation of English currency ceases, the dumping soon stops, since English internal prices then have a chance to catch up with the change in the sterling rate. In practice, the dumping is likely to stop sooner than this, since foreign competitors will prevail on their governments to retaliate. In our illustration, America can counter by increasing her import duties on English goods. She may even retaliate by depreciating her own currency, as indeed she did in the early 1930's.

SPECULATION AND STABILIZATION

Paper currency exchange rates, since they are not anchored to any gold parity, are peculiarly exposed to the influence of speculation. The mere rumor of any impending event which would serve to change the purchasing power of a currency is frequently enough to change the foreign exchange value of that currency in advance of the event. Thus, in the spring of 1937, a rumor that the United States was about to decrease the price of gold (increase the gold value of the dollar) sufficed to raise the rates at which foreign currencies were exchanged for dollars. Somewhat later the foreign value of the dollar was decreased by the rumor that the United States was going to increase the price of gold—that is, further “devalue” the dollar. The financing of foreign trade in the face of capricious changes of exchange rates is of course abnormally difficult and risky.

Governments sometimes take extraordinary measures to stabilize exchange rates against the influence of bearish or bullish speculations. So-called “stabilization” or “equalization” funds are used for this purpose. To take extreme illustrations: Say that England is determined, as she was during the World War, to keep sterling from falling below \$4.76. Then she must buy, at not less than \$4.76, as much sterling exchange as is offered for sale. Or suppose that she wishes to prevent sterling from rising above \$5.00. Then she must sell, at not over \$5.00, as much sterling as buyers are ready to take. Holding an exchange to a given minimum or maximum is commonly called “pegging.” As a rule, however, the main purpose of government exchange dealings is not to keep exchange rates above or below some set limit but to keep them from fluctuating violently as a result of speculation and panicky fears. Such was the chief purpose of the joint efforts of Britain, France, and the United States to stabilize the foreign exchange values of their currencies in the late 1930's.

Having before us a general outline of the character of foreign trade and foreign exchange, we are now in position to consider the restraints imposed on competition which crosses national boundaries.

Forms of Economic Nationalism

Governmental interference with economic competition which extends beyond national borders is commonly termed “economic nationalism.” In general, the interference relates to the flow of three things: raw materials, investments, and finished products. (The movement of tourists, too, is important to some countries.) To illustrate—suppose that Italians wish to relieve themselves of the handicap of being poorly supplied with natural resources. Let us consider the possibilities.

First, Italians might migrate to some land of richer resources—to America, for example. But they will be prevented from doing this, not only by American immigration laws but also by their own reluctance to lose their Italian nationality. Second, they might buy American raw materials, paying for them with Italian finished products. But, again, they may encounter our economic nationalism. Americans, wishing to be self-sufficient, may do either or both of two things: they may restrict exports of raw materials or restrict imports of finished products. Third, Italians might borrow in America, and pay interest and principal with finished products. But, as before, Americans may decline to lend, or refuse to sell materials, or shut out Italian products. Finally, if they remain unwilling to give up the idea of improving their economic opportunities and national power, the Italians may undertake to conquer some region where nationalistic controls will no longer stand in their way.

Thus the movements of raw materials, of products, and of investments are all aspects of international trade, and all can be controlled in such a way as to generate friction. On the understanding, then, that we are really dealing with one broad problem, we may consider one at a time three general forms of national control: control over exports of capital, control over exports of raw materials, and control over imports.

FOREIGN INVESTMENTS

In themselves, foreign investments are economically desirable. In general, investment converts money savings into capital instruments which increase production and raise the standard of living; and unless investment is permitted to cross national frontiers capital will not be placed where it is most needed. Thus the criticism which follows is directed, not at the legitimate "economics" of foreign investments, but at the "politics" of such investments. Too frequently foreign investment is placed, not for the purpose of yielding the maximum product, but for the purpose of securing to governments certain strategic advantages in the wasteful and dangerous game of power politics.

Among the most familiar tales of international relations is that which relates how the private investor of capital in foreign lands gets his fellow countrymen into trouble. It verbally pictures rich "capitalists" sitting on huge bags of "surplus capital" which will bring a low return if invested at home. The capitalists importune their government to help them invest it in "backward regions" (regions having good economic resources and poor means of self-defense), and the government obliges. When they get it invested, they demand that the government protect it against the lawlessness of "the natives," and the government obliges once

more. Then the intervention of one government arouses the jealousy of another, which also aspires to shoulder the White Man's Burden of "philanthropy plus five per cent," and we have just the sort of friction which makes wars.

By long repetition, this account has come to seem as natural as that of the dog pursuing the rabbit. And yet, to judge by Staley's careful examination of the facts,⁶ it is rather the rabbit which pursues the dog. To avoid exaggeration, it is only fair to add that there is a "principle of reciprocity" at work here, private investors and governments exerting mutual pressure. But it is the normal order of events for the governmental pressure to be the heavier.

INFLUENCE OF INVESTORS ON GOVERNMENTS

It is true that investors sometimes influence governments. They may do it because the same persons are at once private investors and public officials, as in the case of a Cecil Rhodes. They may do it by bribery, as in the Teapot Dome scandal. They may do it by political donations, such as Rhodes's donations to the British Liberal party. They may do it by propaganda in the press, as Rhodes did in England, or as the Mannesmann brothers did in Germany. It is also true that governments render real services to investors. They help to place capital in backward regions. The consular service furnishes information on opportunities; the diplomatic branch secures concessions from local rulers. Governments also protect investors against disorder, discriminatory taxation, unfavorable changes in land laws, and the like. Nevertheless, it is more often true that governments influence investors. They have both means of control and objects for using them.

INFLUENCE OF GOVERNMENTS ON INVESTORS

Governments have means of control. They can extend or refuse to extend support to "direct" investments, or investments which carry management abroad with them. They can encourage or discourage "indirect" investments, or loans. Suppose the French government does not want its citizens to lend to Italians. The Italians will try to borrow in France by getting French investment bankers to sell bonds for them. But the French government can interfere with the marketing of the bonds. By means of "inspired" newspaper comment, it can make Frenchmen afraid of the bonds. It can refuse to let banks lend on the security of the bonds. It can prevent the bonds from being sold on the stock exchanges. Or suppose, on the other hand, that it wants Frenchmen to make a loan in

⁶ Eugene Staley, *War and the Private Investor* (1935).

Morocco. It can take part of the loan itself, or guarantee lenders against loss, or in various ways make it worth while to Frenchmen to invest "patriotically." All these devices, and others, have been used in practice.

Governments have objects for control—and other objects besides the profits of investors. Private foreign investments prove handy tools of diplomacy. They furnish governments with what might be called "The Great P's": power in war, propaganda, pressure, pretexts, and prestige. They provide power in war. Britain was able to trade enormous foreign investments for American munitions during the World War; and investments in the Yalu timber region gave Russia a military base in the Far East. They provide propaganda at home. People who do not own a cent of foreign investments can be excited with the idea of protecting "our" foreign investments. The investments provide also a means of pressure on major powers. Ordinarily it is government loans which are used for this purpose, but private investments can be used. Before the World War both France and Germany tried to hold Italy in line by threatening to see to it that private investments would be withdrawn if Italy became too friendly with the wrong country. Private investments provide pretexts for political intervention in backward regions. Thus it was the alleged necessity of "protecting lives and property" which led France into Morocco, Britain into Egypt, Italy into Tripoli. Finally, private foreign investments give a nation a certain amount of prestige. For example, they provide it with representation at international conferences.

Thus the "national interests" affected by private foreign investments are quite as much matters of political strategy, of power and prestige, as they are of economic profit and loss.

RAW MATERIALS

Sources of raw materials, including foodstuffs, are unevenly distributed about the world; and, although some countries are much worse off than others, no nation has on its own ground as much as it needs of everything. Even in the United States, which is closer to self-sufficiency than is any other country save possibly Russia, we are almost wholly lacking in antimony, chromite, manganese, nickel, rubber, and tin, all basic industrial materials; and we are short on mercury, potash, and tungsten. Of twenty-two basic materials listed by Emeny,⁷ Italy and Japan are seriously short of at least thirteen, and Germany of sixteen. In foodstuffs, the case is similar. The United Kingdom, for example, produces at home each year only enough food to last for a few weeks. This situation alone need not cause hardship if nations did not interfere with

⁷ Brooks Emeny, *The Strategy of Raw Materials* (1935).

one another's *access* to raw materials. But they do, by restricting both the exportation of materials and the importation of products.

Of these two general types of restriction, the direct restriction of exports is the less serious. Apparently there has been little discrimination against the buyers of any particular country, while discrimination against outside buyers as a whole, in favor of home buyers, seems to have been either nonexistent or trivial. There are occasional exceptions. For example, an export tax on raw tin in Malaya discriminates in favor of British smelters. In the cases of nitrate and camphor, the long-run rate of return has not been excessive. The potash industry has fared well, but probably not much better than some of our more or less regulated monopolies in the United States. The Stevenson rubber-control plan has doubtless enabled us to get rubber cheaper than we could get it had the monopoly never been attempted at all. But import restrictions are more serious. Countries in need of raw materials must exchange exports for them. They find this increasingly difficult to do when they are rebuffed by new tariffs, higher tariffs, and even worse barriers taking such forms as import quotas and exchange controls. It is "protectionism," as these trade barriers may be collectively termed, which constitutes the gravest single aspect of economic nationalism.

PROTECTIONISM

Since the World War there has been an alarming growth of government restrictions on international trade. The war itself contributed in several ways to this growth. The mutual suspicion and fear left over by the "war to end war" prompted nations to encourage the building up of industries which are of vital importance during war. Thus dyestuffs in America and foodstuffs in Europe were given increased protection against foreign competition in home markets. The "peace" treaties set up new national boundaries, with new trade frontiers to go along with them. The war destroyed commercial treaties which had been designed to relax trade restrictions. The postwar depression brought a fresh wave of protectionism, one of the objects of which was to prevent heavy goods imports from causing large exports of gold.

BUY-AT-HOME APPEALS

The mildest restriction has taken the form of propaganda, inspired by public officials and private interests, urging people to do their buying at home. "Buy British!" or "Buy American!" is the cry. Of the bad economic doctrine employed as propaganda a representative sample is seen in a fearsome tale brought back from Japan some years ago. A

Nebraska congressman related that he had seen, in a Japanese harbor, ships loading up with immense quantities of goods destined for the United States. The moral was that America would be killed by the kindness of cheap foreign goods. The congressman might have allayed his terror, had he cared to do so, by taking a look at American cargoes unloading in Japanese ports. Indeed, the single-minded pursuit of truth might even have led him to the discovery that his country's exports to Japan exceed her imports from Japan. Half-truths of this sort serve as informal restrictions on trade. But formal restrictions are more important. They can be broadly classified into two types, with respect to age, and called, for lack of better terms, "tariffs" and "new restrictions."

TARIFFS

As generally understood, a "tariff" is a system, or, rather, a conglomeration, of import duties. Thus the Hawley-Smoot tariff of 1930 outlined the duties to be levied on some 25,000 items, running all the way from "acid and acid anhydrides" to "witherite," and from "steel ingots" to "leeches" and "turtles." An import duty may be *specific*, or according to a standard of weight or measurement, such as 8 cents a pound on maple sugar. It may be *ad valorem*, or according to value, such as 10 per cent on radio tubes. Or duties of both types may be put on the same article, sometimes with the stipulation that the one turning out to be the higher shall be the one to take effect.

A tariff may have as its main purpose either revenue or protection. The two purposes come into conflict in the sense that protection requires duties high enough to curtail imports, while the curtailment of imports must sooner or later reduce the revenue provided by the collection of import duties. While both purposes are to some extent accomplished by tariffs which are not so high as to exclude imports completely, the emphasis in the United States has shifted more and more from the original purpose of revenue to the purpose of protection. The general level of protection may be raised in several ways. The list of dutiable articles may be extended. The rates of duty on given articles may be raised. Or the official valuations of articles may be stepped up, as by substituting American for foreign valuations. None of these methods has been overlooked.

Our first tariff, adopted shortly after Washington became President, had low duties designed mainly to raise revenue. In 1816, however, the tariff became an avowed protective measure. John Randolph raised an almost solitary protest, warning Congress that unorganized consumers and farmers would suffer from the organized pressure of manufacturers

for higher and higher duties. Clay and others argued that America must make herself economically independent of Europe in order to remain politically independent. Clay termed protection "the American system"; and, with a few intermissions, it has been the American system to step up import duties ever since his time. Following the high "Tariff of Abominations" of 1828, rates declined somewhat until the Civil War, then rose higher than ever. The average level of duties reached about 47 per cent in 1864, fell a bit in 1894, jumped to 57 per cent in 1897, declined substantially in 1913, hit a new high in 1922, and eclipsed even the 1922 record in 1930. Since 1933, duties have declined somewhat. In the 1922 tariff legislation a so-called "flexible provision" empowered the President, on recommendation of the Tariff Commission, to raise or lower duties as much as 50 per cent. The leading purpose of this provision was to enable the United States to even up foreign and domestic costs of production. At the same time our government was enabled to retaliate quickly against any country which might discriminate against American goods.

"NEW" RESTRICTIONS

After the World War, but more particularly during the 1930's, many countries used protective devices far outdoing tariffs in the violence of their effects. If not altogether new in form, at least these devices were employed to an unprecedented degree.

There was *currency depreciation*, which, as explained above, led to "exchange dumping" and to retaliation against such dumping.

There were *quota restrictions*. Two general types may be noted, "customs quotas," and straight "import quotas." The first type lets in a certain amount of a commodity at a favorable duty, imports in excess of this amount being charged the normal duty, which is higher. For example, the United States does this with Canadian cream, and with some other commodities which are affected by the "reciprocal trade agreements" discussed below. Since the duties on the imports coming in under the quota are typically decreased, the customs quota is not to be regarded as a restrictive device. More serious is the straight import quota, because it sets an arbitrary limit on the amount of a commodity to enter during a given period. Import quotas have been used by forty countries since 1931.

There were *import licenses*. That is, a government required an importer to buy a license in order to import certain goods. Then, by refusing to issue the license, or by stalling, or by raising the license fee, the government was enabled not only to cut down imports but also to discriminate against particular goods and countries.

There were *exchange controls*. Governments interfered in such a

way with the buying and selling of foreign exchange that foreign trade was curtailed and driven into new channels. Thus, they "allotted" exchange, or rationed it out, so that importers could buy only limited amounts of goods abroad while the governments were enabled to specify both the character of the goods and the seller from which they might be bought. They also "blocked" exchange. To illustrate, Latin Americans who exported goods to Germany would be paid in "Aski" marks, which could be used only for the purpose of purchasing goods in Germany.⁸

There were restrictions taking the form of *administrative controls*. There were "sanitary regulations." For example, the United States once excluded beef from only a certain region in Argentina where the foot-and-mouth disease attacked cattle; but it later extended the embargo to the whole of Argentina. There were "milling and mixing requirements." One country required that in the milling of flour every 5 parts of imported wheat had to be mixed with 95 parts of homegrown wheat. In some cases countries indirectly curtailed imports by refusing to export certain materials until they had been processed at home. Such was the effect of the embargoes imposed by the Canadian provinces on the exportation of pulpwood, and by Ontario on the exportation of wood pulp itself. In southeastern Europe this device was carried to something like "the limit." Rumania would not let her oil go out except on the condition that it be first refined at home, while Hungary would not admit Rumanian oil except on the condition that it be refined in Hungary. In order to break the deadlock, the Rumanians first refined the oil, then it was mixed again, and finally it was refined once more in Hungary and Aus-

⁸ For an elaborate account of exchange controls, see Paul Einzig, *Exchange Control*, 1934.

⁹ It is fair to note that the states of our American Federal Union are not altogether innocent of barriers to interstate trade. The Constitution forbids the states to impose tariff duties on imports and exports, or to discriminate against the commerce, ships, and citizens of other states; but the state governments have nevertheless found means of discrimination. For example: (1) Buy-at-home appeals are used. (2) In the purchase of supplies for public institutions and of materials for public construction, homemade products are given preference by over half the states. (3) Maine has succeeded in blocking the exportation of hydro-electric power. The purpose is the same as the purpose of the restriction on the exportation of Canadian pulpwood: to concentrate manufacture in the jurisdiction imposing the restriction. (4) Discriminatory taxes are imposed on out-of-state trucks and products. Thus, "foreign" trucks are required to pay ton-mile taxes, and to conform with special regulations as to size, loading, etc., which vary from state to state; and liquors are taxed for the use of materials coming from "foreign" states. "Excise" taxes are imposed on margarine, or on margarine not made exclusively from "home" materials. (5) "Quarantine" regulations are used to keep out "foreign" fruits and cattle. Among the products prevented from flowing freely in interstate commerce by these state trade barriers are copper, coal, oil, iron ore, mineral products, dairy products, garden produce, and textiles. For a brief account, with bibliography, see F. E. Melder, *State Trade Walls*, Public Affairs Pamphlets, No. 37, 1939.

In the foregoing account of "new" restrictions the past tense has been used, not because the restrictions in question are now a thing of the past, but because the coming of the War of 1939 has become the predominant influence in the intensification of restrictions and in the determination of their form. The chapter which follows will undertake to outline the leading consequences of economic nationalism, to review the alleged arguments for protectionism, and to discuss means of freeing world trade from the worst of its shackles. In conclusion, some attention will be given to the question whether international economic competition is really "economic."

PROBLEMS

1. Describe the general character of international trade (a) in commodities and services; (b) in capital. What countries are the leading traders?

2. "After all, since we export only about 10 per cent of our annual national output, and since we can produce at home practically everything which we import, we should not be concerned about a decline of our foreign trade." Discuss.

3. What is the essential nature of "foreign exchange"? Of "bills of exchange"?

4. Assuming the English and American currencies to be based definitely on gold:

(a) Explain the meaning of the sterling par in the U. S. A. Of the dollar par in England. Under what conditions will a foreign exchange stand at par?

(b) What are the extreme limits of movement of the sterling rate in the U. S. A.? Explain.

(c) Explain how the sterling rate in the U. S. A. tends to be affected by goods exports to England. By goods imports from England. By the loans of Englishmen to Americans. By the payment of interest on these loans. By the American purchase of English insurance, freight service, and so on. By the expenditures of American tourists in England.

(d) Explain what is ordinarily meant in America by an "adverse" balance of trade. Is it really adverse? Explain.

(e) Explain how an "adverse" balance of trade is corrected: How the growth of an adverse balance is checked before correction takes place.

5. Assuming the English and American currencies to be off the gold standard:

(a) What is the probable explanation of this situation?

(b) Is there any such thing as a sterling par? If so, can the actual rate be above or below par? Explain in both cases.

(c) "If the British depreciate their currency and we do not depreciate ours, or if they carry on depreciation faster than we do, our exports will be encouraged by the comparatively rapid rise of British prices." Discuss carefully.

(d) Explain the general procedure and the main purpose of exchange "pegging." Of exchange "stabilization."

6. What is the meaning of "economic nationalism"? Outline its main forms, and describe the relations between them.

7. With respect to private foreign investments, explain:

(a) Why investors may seek to influence their governments. How they may do it.

(b) Why governments may seek to influence investors. How they may do it.

8. In what leading ways is the international movement of raw materials restricted? What do you consider the most serious type of restriction? Explain.

9. Discuss the general nature of (a) protective tariffs; (b) currency depreciation; (c) customs quotas; (d) import quotas; (e) import licenses; (f) import monopolies; (g) exchange allotment; (h) exchange blocking; (i) exchange clearing; (j) "administrative" restrictions.

REFERENCES

See the list at the close of the next chapter.

XXXII

INTERNATIONAL ECONOMIC COMPETITION: *CONSEQUENCES AND NEEDED CHANGES*

In matters of commerce the fault of the Dutch
Is offering too little and asking too much.
The French are with equal advantage content,
So we clap on Dutch bottoms just twenty per cent.

—GEORGE CANNING.¹

Consequences of Economic Nationalism

ECONOMIC nationalism breeds world unrest by causing economic hardship and political ill-will. The sources of friction will be considered with respect to investments first, and then with respect to the broader problem of protectionism.

INVESTMENTS AND FRICTION

In the special case of governmental encouragement to private foreign investments, there is a fairly definite recipe for getting into trouble. It contains, according to the painstaking study of Eugene Staley, the following main ingredients.²

First, the investments should be "direct." Instead of being mere loans, they should involve ownership, and management should be exported along with capital. "Indirect" investments are not so likely to create occasions for diplomatic and military intervention on behalf of "life and property." Second, the investments should be made by the people of a Great Power—one strong enough to intervene. Third, the investments should be in "backward" regions, where government is weak, and where institutions differ greatly from those of the investing country. This maximizes the likelihood of friction. Fourth, the investments should be made in particular types of enterprise. Thus, minerals, railways, and telegraph

¹ In 1826, to the British ambassador at The Hague, after Holland's refusal to conclude a treaty of reciprocity with England.

² *War and the Private Investor*, cited above.

lines have especial *strategic* importance. Fifth, the investments should be coupled with a national policy of "expansionism." Among the people of the investing country there should be a widespread enthusiasm for uplifting heathen and adding to national real estate. The whole recipe is illustrated by the investments of Germans and Frenchmen in Morocco before the World War. Friction between these two Great Powers grew especially acute during a contest for a railway which, if owned by a rival of France, might have impeded French expansion from Tunis to Morocco.

Protectionism merits a more extended discussion, because its consequences, although equally grave, are much less obvious.

RAW MATERIALS

Protectionism interferes with the flow of raw materials for the simple reason that it handicaps needy nations in exchanging products for raw materials. When the materials are sorely needed—when there are no satisfactory substitutes, and when it is not feasible for the people of the needy nation to migrate to the materials—national patriots are given a stronger temptation to try to seize sources of supply by violence. Thus protectionism leads to expansionism, and expansionism to war. We reach only the same conclusion by a more roundabout route when we observe that nations may first try "bargaining" before they resort to open violence. If, for example, we should withhold oil from one nation in order to make it stop withholding manganese from us, nationalistic feeling would tend to be intensified in both nations. It is true, of course, that the damming up of raw materials is only one of the effects of protectionism, but it is a serious effect.

COMPARATIVE ADVANTAGE

Countries which cannot trade off products of low comparative cost must turn to the production of goods for which they are poorly equipped. This makes for a low standard of living, and, where the standard is already low, serves as an incentive to the military conquest of new territory where the national area of free trade can be extended.

Protection had something to do with Germany's colonial ambitions before the World War. Foreign restrictions interfered with German trade. At the same time, influential Germans were reluctant to lend German capital to developed countries, fearing that this policy would strengthen the rivals of the Fatherland. Therefore Germany herself used protectionism to build up home industry, and her quest for markets and materials became a part of her struggle for "a place in the sun." Pro-

tectionism played a part in popularizing the conquest of Ethiopia with the common people of Italy. Rightly or wrongly, the people were led to hope that their standard of living might be raised by the conquest. Thus J. T. Whitaker, in a book entitled *And Fear Came*, reports this statement from an Italian peasant: "I have a son in Africa already. I would rather have him killed when the war begins down there than have him come back to slow starvation on this hillside."

DISEQUILIBRIUM

Protectionism causes economic hardship by disturbing the equilibrium among industries. Tariffs which are merely high, but which are not changed, keep down standards of living only by holding production out of line with comparative advantage.³ But *raising* import barriers adds to the damage by throwing industries out of balance. Demand is arbitrarily withdrawn from articles of foreign commerce, both abroad and at home. It is said that the McKinley tariff of 1890 threw several thousand workers in the pearl button industry out of work in Austria, and that the Hawley-Smoot tariff of 1930 did the same thing to Swiss watchmakers. If it is bad to be employed in industries of high comparative cost, it is still worse to be unemployed.

To take another illustration—the Philippine sugar industry has been built up on the assumption that the United States would not shut out the sugar. Now that the political independence of the Islands is promised, however, there is the prospect that Philippine sugar will encounter growing difficulty in getting into the American market. Indeed, American sugar interests have worked for Philippine independence with precisely the idea of putting heavier and heavier duties on Philippine sugar. If this happens, a major industry in the Islands will be faced with ruin, and the resulting economic hardship will put the Philippine government in a precarious position, no matter who is in power. A similar situation is seen in the efforts of our dairy interests to use the tariff as a means of excluding Philippine coconut oil from the American market.

But it is not necessary to go outside our own borders to illustrate what happens when protectionism is intensified. A depressing example is provided by the states of our own Cotton South.⁴ These states account for nearly a fourth of our land area, for over a fifth of our entire population, and for more than two-fifths of our farm population. But their per capita wealth averages less than half that of the other thirty-eight states.

³ Strictly speaking, this is true only in so far as the demand and supply schedules of different commodities do not change.

⁴ See Peter Molyneux, *What Economic Nationalism Means to the South* (1934).

Over 3,500,000 persons in the "cropper" class live in perpetual insecurity, and always at the poverty level. This is not because they are exploited by the landowners, for the landowners, too, have found cotton relatively unprofitable. The main reasons are that the region relies chiefly on an export crop and that the demand for this crop has been persistently reduced by rising trade barriers at home and abroad. For these people the "principle of reciprocity" works inexorably. When increases in our tariff hamper imports, exports are hampered correspondingly. And, in terms of output exported, cotton leads all our industries with an average of about 60 per cent. If the demand cannot be increased by scaling down trade walls, and if foreign countries continue to develop their own sources of supply, the South, and America with her, will face the appalling task of making a wholesale transfer of land, capital, and human beings to new employments.

DISCRIMINATION

It is probably in the form of discrimination that the unholy alliance between bad economics and bad politics becomes most sinister. *Discriminatory* import restrictions amount to hostile acts by one national state against another. Discrimination by a private firm is not serious. It is not a national matter. The situation would be different, however, if our government were to publish official congratulations to a private firm for boycotting the goods of a particular nation.

Of course this is only a suggestion. States do not use these particular methods of making themselves obnoxious. But they do use other provocative methods. Perhaps the most mild are the "bargaining" provisions which appear in tariffs. Fairly bristling with opportunities for discrimination are the import quotas, import licenses, exchange controls, and the like, of the present day. When a government directs import restrictions at a particular country, the victim usually retaliates, with the first government then retaliating against the retaliator, and so on. The outcome is called a "tariff war," or "trade war." Germany waged such a war with Russia in 1893, with Spain in 1894, and with Canada from 1897 to 1910. France conducted one with Italy from 1889 to 1899, and with Britain in 1931. Indeed, a sort of world trade war has been in progress since 1930, when the makers of the Hawley-Smoot tariff disregarded the joint protest of a thousand American economists. At their worst, the rules followed in trade bargaining resemble the *lex talionis* more closely than they do the decent principles laid down by the Marquis of Queensberry. The exchange of economic blows shortens patriotic tempers and, each fighter being his own referee, opens the way to military blows.

Arguments for Protectionism

The favorite protective device of our own country is the tariff. For that reason the discussion of protectionist arguments may be included in a review of the leading arguments used in support of protective tariff. Certain of these arguments are so clearly illogical that they may be dismissed briefly. More extended attention is merited by those arguments which, although they have some foundation, not only exaggerate the need for protection but also falsely assume that import duties provide the best means of securing protection.

ILLOGICAL ARGUMENTS

Among the most illogical arguments for protective tariff are the following.

"The tariff makes the foreigner pay our taxes." The idea is that the revenue brought into our treasury by means of import duties is paid by foreigners. This is not the case. The effect of the duties is to curtail supplies, thus increasing the prices paid by Americans, who therefore pay the "taxes." Besides, a tariff must become less effective for purposes of revenue in order to become more effective for purposes of protection.

"The tariff gives us a favorable balance of trade." The meaning is that the tariff, by cutting down imports, gives us an export balance. In the short run, this may be true. In the long run, however, trade is reciprocal, a reduction of imports leading to a reduction of exports. Adam Smith covered the point a century and a half ago when he remarked: "The traders of both countries [France and England] have announced, with all the passionate confidence of interested falsehood, the certain ruin of each in consequence of that unfavorable balance of trade which, they pretend, would be the infallible effect of an unrestrained commerce with the other."

"The tariff protects American industry against the products of foreign cheap labor." Horace Greeley popularized this plea long before the Civil War. It is answered by the principle of comparative costs. What counts is wages per unit of product, not wages per unit of time. Such foreign products as foreigners really do produce at costs lower than ours we ought to secure in exchange for products in which we have a comparative advantage. Moreover, the same people who use this argument are often heard arguing that the tariff raises our wages. If this were so, every increase of our tariff, since it would increase our costs of production, would be useless as a means of protecting American industry against the products of foreign cheap labor. In reality, our tariff can raise American

wages, not in all industries, but only in protected ones. Where it does this, however, American cost is increased in comparison with foreign cost.

"The tariff increases the demand for American products by providing them with a home market." The favorite application of the argument is that the expansion of protected manufactures creates a demand for American farm products. This is refuted by the principle of reciprocity. Decreased imports of foreign manufactures make for decreased exports of our farm products. The result of the protection, therefore, is not an increased demand for our products but the substitution of a home market for a foreign market.

THE TYPE AND EXTENT OF PROTECTION

Before reviewing the remaining protectionist arguments, it will be worth while to call attention to two facts which, although they are far from being subtle, are commonly overlooked.

The first fact is that protection, if justified at all, is justified only in the public interest. This being the case, it is the public at large, rather than some particular group, which should pay for the protection. It is an inherent weakness of tariff protection that it discriminates against the buyers of the protected articles by raising prices. Industries which deserve artificial stimulation should be built up by means of subsidies paid out of public revenue. It is true that subsidies, since they would substitute higher taxes for higher prices, would be more painful because they would be more obvious. But this is an argument in their favor. They would induce citizens to weigh more carefully the question whether the protection is worth the cost.

The second fact is that the need of protection is easily exaggerated. The protection of "infant industries" illustrates the point. Protection is needed, if at all, to offset comparative disadvantage. But comparative disadvantage, as we learned in Chapter IX, may be avoided by limiting the scale of operations. In a country of widely diversified resources a great many industries can get started without protection. Local advantages in mineral resources, soil fertility, water power, and so on, make it possible to begin. After a beginning is made, the improvement of technique, of labor supply, and of banking facilities, makes it possible to extend the scale of operations without running into comparative disadvantage. It may be worth while, under certain circumstances, to push production beyond this point. But one must be careful to investigate the circumstances, and to inquire at what point the need of protection really arises.

The following arguments should be considered in the light of these cautions.

INFANT INDUSTRIES

There is some point to diversifying production by sheltering new industries temporarily from the competition of foreign producers who are already well established. It is risky to depend on just a few products. Either production or markets may fail. It is all the more risky when nationalism and the possibility of foreign protectionism and war are taken into account. When home industries are not only immature but are also faced with the danger of foreign dumpings, the case for protection is especially strong. Such was the situation of our infant manufacturing industries after the War of 1812.

But it does not follow that the protection should take the form of tariff. More important, the protection of American industries has gone altogether too far. Within our own borders, which contain the greatest free-trade area in the world, industries have proved able to establish themselves in new regions without protection against the competition of more developed regions. New industries—automobiles, motion pictures, radios—have flourished without protection from foreign competition. Where extended at all, protection should last only until the infant has had a reasonable length of time to grow up. In practice, the nursing bottle is kept at the disposal of giants. Whatever the degree of protection, there are always some producers—and during depressions there are many of them—who need more protection to make both ends meet. Give it to them and production is extended to a new margin where there is the same excuse for still more protection. *Parts* of industries are always to be found in the infant stage, and protection is given to infants which have no business to survive.

NATIONAL DEFENSE

It is argued that tariff protection is necessary to our national defense, that we must build up certain industries urgently needed during war.

Suppose we ignore the fact that protectionism increases the likelihood of war, thereby increasing the need for national defense. Suppose we assume that war is inevitable, and that we must prepare ourselves for it by building up, say, the dyestuffs industry, which is readily convertible to the production of explosives and poison gases. If this is true, the cost should be met, not by the consumers of dyestuffs, but by the public at large, as it would be if the industry were built up by means of a subsidy paid out of public revenue. To defend even a subsidy it is necessary to

show that during a war we probably could not import enough of the desired commodity or a satisfactory substitute, and that we could not produce enough of either for ourselves. To illustrate, the protection of wool is not justified as a defense measure. We already produce about half of what we use, and could produce more in a pinch. Also we can use cotton and other substitutes.

STAYING OUT OF WAR

It is sometimes argued that we should use the tariff as a means of curtailing our foreign trade, thereby decreasing the chances that interference with our trade by belligerents will draw us into "somebody else's war."

Suppose it is decided, when a foreign war is in progress, that we should break off the contacts most likely to cause friction between the United States and one or more of the belligerent powers.⁵ In our particular case, exports are more dangerous than imports. Because of our geographical location, it is in general unlikely that belligerents will interfere with vessels and cargoes bound for America, arguing that the goods are to be shipped to their enemies. With exports, the situation is the opposite. But if the restriction of exports is the object, the restriction of imports is an indirect and slow method of accomplishing the object. Even as a method of restricting imports, something faster and more certain than import duties would be needed. Tariff would work only for the purpose of *permanent* isolation. No such policy is contemplated; and, if it were contemplated, the tariff method would be open to the objections already discussed.

CONSERVING NATURAL RESOURCES

The tariff might be used as a means of conserving our natural resources. "Build up our manufactures," the argument runs, "and we export the products of our skill. Fail to build them up, and we export natural resources themselves." But most of our exhaustible timber and mineral resources are consumed at home. Restriction of their exportation would not go far to solve the problem. If such restriction is nevertheless desir-

⁵ Of course this was the idea underlying the so-called "neutrality" legislation of the 1930's. Americans were not to make loans to warring nations or ship munitions to them. Americans were not to travel on the ships of such nations, and they were to travel in the "war zone" only at their own risk. At the time of the outbreak of the War of 1939, certain implements of war were omitted from the list of commodities which warring nations might secure here on the "cash and carry" basis, that is, by paying cash for them and carrying them away without the services of Americans and American vessels. But, even before we formally entered the war, most of these provisions had been nullified by official acts based on the conviction that this is not "somebody else's war" but that it is, on the contrary, a war in which we are strongly interested as American citizens and as human beings.

able, direct export embargoes would be more efficacious. Or the object might be accomplished through a Constitutional amendment permitting export taxes. But it should be borne in mind that either of these measures would meet the opposition of our producers and exporters of the materials in question, and, if carried far, would arouse resentment abroad.

PLANNED ECONOMY

"The tariff," it is sometimes argued, "is necessary if there is to be any nationally planned economy. Comparative outputs of different commodities cannot be planned without control over exports and imports." There is something in this. The Russian, Italian, and German planners have seen fit to set up rigid controls over foreign trade. Our own AAA provided for tariff duties high enough to prevent the importation of basic farm products. But the main object of planning, as far as America is concerned, would be that of reducing the violence of economic fluctuations. In our country, which is characterized by a huge domestic market and a wide variety of industries, fluctuations are so largely homemade that self-sufficiency could not be expected to furnish much relief. And, to repeat, the tariff is a poor means of attaining self-sufficiency.

AMERICAN TARIFF MAKING

What long helped to make an absurdity of tariff "arguments" was the actual process by which American tariffs were made. Before the adoption of the reciprocal trade program of 1934, tariffs were constructed essentially by a process of political "logrolling," the essence of which may be illustrated as follows: You are a senator or representative of the victorious party. You have promised the voters to help fix the tariff according to "sound principles." If you are a Democrat, you seek a "competitive" tariff, namely, a tariff which will enable foreign producers to compete on equal terms with American producers in our market. If you are a Republican, you seek a tariff which will "equalize foreign and domestic costs," thus enabling Americans to compete on equal terms with foreigners in our market. Although Democrats traditionally seek lower duties than Republicans do, it is clear that in either case the duties must equalize foreign and domestic costs if foreigners and Americans are to compete on equal terms. Now the comparative costs, and the duties required to equalize them, depend on *how many* Americans and foreigners, respectively, are to compete in our market. However, you do not figure costs on this basis. Indeed, you make no serious effort to find out what the comparative costs are at the present time. Instead, you are guided mainly by what you think your constituency back home will think, or

want. To discover this, notices are published to the effect that there will be "hearings" about the matter at given times and places. And these notices are in practice observed mainly by those who have fairly large axes to grind.

The hearings are conducted before a House committee (Ways and Means) and a Senate committee (Finance), a joint committee later undertaking to reconcile differences between the two houses. You are in a hurry because business is disturbed while a tariff revision is going on, and delay may cost political scalps. To judge by the making of the Hawley-Smoot tariff, about a month and a half is spent in hearing on the average one witness every twelve minutes. It is mostly the witnesses of *well-organized* interests which you hear. Thus you are not too inquisitive about costs and profits. You accept unproved statements, and even rumors, as if they were facts. You get information on practically no foreign costs, and on the American costs of only about 8 per cent of the dutiable articles.

Meanwhile, there are the pressure groups. As David Cohn has observed,⁶ however many changes may come over the District of Columbia landscape, two features remain constant: the Washington Monument and the Lobbyist. But the pressures exerted by different interests are not equal. Those favoring protection are stronger than those against it. Those favoring revision are mightier than those opposed to it. And those directly affected, such as manufacturers, are more influential than those indirectly affected, such as consumers. The general result is duties which are bad for international friendship, which have little relation to cost differences, which steal from American consumers, and which do not even bring about an equitable distribution of theft.

Needed Changes

We have seen that the movements of capital, of raw materials, and of finished products, are but various aspects of international trade. Ever since the World War we have treated these different aspects inconsistently. We have tried to collect war debts, expand exports, stop lending, and decrease imports, all at the same time.

GENERAL POLICY

The first need is a consistent and coherent general policy. A choice must be made between economic isolation and foreign trade; our treatment of the tariff question, of foreign loans, of war debts, and of currency

⁶ *Picking America's Pockets* (1936). For the story of the Hawley-Smoot tariff, see E. E. Schattschneider, *Politics, Pressures, and the Tariff* (1935).

stabilization, must be consistent with this policy; and the administration of the program must be adapted to the attainment of the objective set by the general policy. Although improvised controls will be unavoidable during wartime, there is no doubt that, as a long run policy, the encouragement of foreign trade is preferable to isolation, not only for our own standard of living but for the cause of world peace as well. In general, there should be an orderly reduction of our import duties; a revival of foreign lending wherever prudent investments can be made; and a war debt policy which will not commit us to increasing our imports so rapidly that our economic balance will be seriously upset. Probably the administration of the policy formulated by Congress should be in the hands of a group similar to the Executive Committee on Commercial policy, which is charged with the administration of the reciprocal trade program discussed below. At any rate, the object is an impartial and expert commission, freed from the political and business pressures which long characterized Congressional tariff making.

"TARIFF" REFORM

If the abatement of quota restrictions, exchange blocking, and the like, is largely beyond the power of the United States, at least something substantial can be done to make tariffs lower, less unstable, and less discriminatory. Our own import barriers might be scaled down by such means as the following.

First, if it seems desirable to encourage some industry, the encouragement should take, as a rule, the form of a subsidy. As indicated above, an action avowedly taken in the public interest should be paid for by the public. In all probability, this measure would lower our import barriers, for people would see more clearly that they were paying for protection and would therefore be more likely to consider protection on its merits.

Second, the notion should be abandoned that important changes in our tariff are purely our own business. Of course they are not. They affect foreign countries, which should be consulted, or at least notified, well in advance of the changes. Even this courtesy would obviate much economic hardship and political resentment.

Third, workers and investors in any home industry which is seriously injured by a lowering of trade barriers should be compensated at public expense. They have entered the industry in good faith, in the legitimate expectation that they will not be left stranded by a change over which they have little control. The change, as it is in the public interest, should be paid for by the public. It is only reasonable to indemnify workers and investors while a readjustment is being effected. Workers might be given

unemployment benefits, and vocational training to fit them for new occupations. Corporations might be paid to scrap equipment or to adapt it to use in other industries. This policy would decrease the opposition to tariff reductions. There is also precedent for it. For example, the government gives tariff protection to industries threatened with dumping; and the Agricultural Adjustment Act undertook to indemnify export industries which had suffered from our frequent tariff increases.

Fourth, the temptation to practice tariff discrimination against "low-cost" countries can be decreased. Where comparative advantage really makes foreign costs low, there is no excuse for discrimination, since we ought to import goods which we cannot produce except at comparative disadvantage. The treatment of articles produced abroad by exploited labor raises a troublesome problem. It is alleged, for example, that wages are deliberately held down in Japan in order to stimulate exports. If this is true, one way of looking at the matter is that we are getting certain Japanese goods at less than their cost of production, and that we ought not to object. Further, interference on our part might cause certain Japanese laborers to become unemployed instead of being merely exploited. Nevertheless, home producers of articles coming into competition with the products of exploited labor are incensed at unfair competition. If the object is to put an end to this unfair competition, retaliatory discrimination against Japanese goods is not the best remedy. It would be better, if possible, to induce the government of the offending country to discontinue the exploitation. The International Labor Office was founded partly for the purpose of studying this cause of international friction and making recommendations to governments. It has proved very difficult, however, to convert ILO recommendations into national legislation.

Fifth, much can be done to extend and improve commercial treaties. In particular, trade is encouraged, and discrimination relaxed, by including the "most-favored-nation" clause in treaties.

COMMERCIAL TREATIES

To illustrate most-favored-nation treatment—we enter into treaties first with France and then with Italy. By the terms of the first treaty, certain French commodities, say wines, are admitted into our country on unusually favorable conditions. Thus we may make the import duties abnormally low. Or suppose we are using quota restrictions. Then we may admit increased quantities of French wines under either a customs quota or a straight import quota. France is the "most favored nation" with respect to the wines. But the principle is extended further when,

in the terms of the second treaty, we grant the same treatment to Italian wines.

There are two forms of the most-favored-nation treatment, the conditional and the unconditional. To illustrate the conditional form, we favor imports of French wines on the condition that France favor imports of American grain. And, in extending the same treatment to Italian wines, we require Italy to grant us some concession equivalent to the one which France has granted. Under the unconditional form, we would not require Italy to make this concession. The unconditional form, which we have employed since the early 1920's, has two advantages over the conditional. It decreases the dangers of "bargaining," and it has a more stimulating effect on trade. But its spirit may be violated by a too meticulous description of commodities. Thus it is said that Germany admitted cattle freely *provided* they came from at least a certain altitude—an altitude low enough for Austria but too high for France. The United States, too, has admitted cattle according to a minimum-weight requirement which discriminates against Mexican cattle in favor of Canadian cattle.

Next to the ideal of complete freedom of trade, a world agreement would take the fullest advantage of the multiangular character of trade. The "bilateral" agreement between two countries, even when it is based on the unconditional form of the most-favored-nation principle, has the weakness that in practice its effect is confined predominantly to the countries which enter into it. The general agreement would also give nations some practice in world co-operation, thus helping to break down what Salter has called "the sacred principle of mutual distrust." But as this enemy to world peace is too strongly entrenched to be dislodged by such a frontal assault, the present attack consists in a flanking movement taking the form of "reciprocal trade agreements."

RECIPROCAL TRADE AGREEMENTS

The main provisions of our Reciprocal Trade Agreements Act of June, 1934, are these: First, the President is empowered to enter into agreements to modify duties or other import restrictions. But no duty is to be raised or lowered more than 50 per cent, and no article of import is to be transferred from the dutiable list to the free list, or vice versa. Second, the agreements embody the most-favored-nation principle in the unconditional form. Thus, when we reduce our duties on Canadian dairy products, we automatically extend the same concession to other countries, provided they do not discriminate against American goods. Third, the typical agreement runs for three years, after which either party may

withdraw on six months' notice. However, either party may withdraw whenever it finds a third country to be the main beneficiary, provided the other party declines to revise the agreement in such a way as to meet this objection. In that event the other party is free to denounce the agreement on thirty days' notice.

Up to November 17, 1938, the United States had made reciprocal trade agreements with eighteen countries—with Cuba, Belgium, Haiti, Sweden, Brazil, Canada, the Netherlands, Switzerland, Honduras, Colombia, Guatemala, France, Nicaragua, Finland, El Salvador, Costa Rica, Czecho-Slovakia, and Ecuador. On this date we signed a new agreement with Canada, and an agreement with the United Kingdom together with Newfoundland and the British *nonself-governing* colonies. The Anglo-American pact will serve to illustrate the general purpose of all twenty agreements. Britain's concessions, although extending to American fishery, lumber, and factory products, relate mainly to our agricultural products. Thus, duties are *removed* from our wheat, lard, canned grapefruit, and certain fruit juices; while duties are *lowered* on rice, apples, pears, and some canned fruits. At the same time the *quota* on American ham is increased. To be made duty-free at a later date are American ham, other pork products, corn, and cotton. In return the United States concedes lower duties on British textiles, metals, and various specialties. Among the goods affected are high-grade cotton, wool, flax and hemp manufactures, and certain leather, glassware, and pottery products. Canada made important new concessions on many American manufactures, including textiles, machinery, aircraft engines, and automobiles. The United States, in turn, made concessions on many Canadian natural and agricultural products.

It is too early to dogmatize on the effects of the Reciprocal Trade Agreements Act. The agreements reached under it are comparatively recent, small in number, and limited in scope. Each party usually agrees to confine increases of imports to products which do not compete directly with home industry. Concessions to third parties have been limited, since in practice the parties to any given agreement have secured from each other most of their imports of the products covered by the agreement. Our foreign trade has been affected, too, by other factors and especially by general recovery from the world depression. Still, the results seem good. Our trade with countries with which we have agreements has picked up more than our trade as a whole. For example, our trade with Cuba and Canada revived sharply after the negotiation of agreements. This was in spite of the fact that we had previously made a special concession to Cuba on sugar. It was also in spite of the fact that in the case

of Canada the operation of the most-favored-nation principle was hampered by the "imperial preference" system.⁷ At present the significance of the reciprocal trade agreements lies mainly in their being a progressive step.

FOREIGN INVESTMENTS

As for the problem of private foreign investments, a brief process of elimination will indicate why world co-operation offers the only satisfactory solution. It is not practicable to prevent such investments. As long as the rich prefer interest payments to spending a capital sum, and as long as the needy prefer the opposite, capital should go and will go from wealthy countries to poor ones. Neither is it practicable to make investors take their own risks. Investors denied government protection would surely undertake to protect themselves, and the outcome would be violence and racketeering in "backward regions." In any case, it is doubtful that a government could stand that withheld protection while others were extending it.

Sometimes governments try to co-operate through a "consortium." That is, they divide up fields of foreign investment territorially, or else share control over the same territory. Unfortunately this expedient has increased friction instead of decreasing it. Governments fall out over their respective shares of territory or control. When governments themselves assume the ownership of foreign investments, the tendency is to make disputes more dangerous by turning them into *national* disputes. For example, the Soviet Union was quick enough to assert itself against a threat to its investment in the Chinese Eastern Railway. What is needed is world control over foreign investments—something which awaits the time when a feeling of world loyalty takes the place of pride in national power.

While direct private investments have caused the most international friction, the main losses to investors have come from loans to foreign governments. Responsibility for this fact must be shared by investment bankers and public officials. Although opinion is divided, the general belief now is that our bankers did not investigate the unfortunate Latin-American loans adequately. Our government, for its part, has not been guided so much as it should be by the *economic* aspect of loans. During the 1920's, the State Department frowned on loans to Russia and condoned loans to Germany, a discrimination which was based largely on

⁷ Under the imperial preference arrangement, the states comprising the British Empire, or Commonwealth of Nations, give one another preference over outsiders in the matter of import restrictions. Thus a limit was put on the concessions which Canada could extend to the United States under the reciprocal trade agreement.

politics and was out of line with the credit standings of the two countries. It "cautioned" bankers against Latin-American loans, but waited several years to make the warning public, and then it was too late to help the investors. Our Securities Exchange Commission should prove helpful in discouraging unsound foreign loans; but it does not prevent the diplomatic discouragement of sound ones. There is great need of world co-operation in the investigation of foreign loans, but the spirit necessary to such co-operation is as yet overshadowed by the tradition of nationalism.

The "Economic Interpretation" of International Competition

In conclusion, it is important to see in perspective the alleged "economic" competition of nations. Something may be gained by considering the "economic," or "materialistic," interpretation of the World War.

"ECONOMIC INTERPRETATION" OF THE WORLD WAR

According to the economic interpretation, the overlapping steps leading to this conflict, and to American participation in it, went substantially as follows. First, there was the economic penetration of backward regions by strong powers. Second, there was political intervention to protect the economic interests. Third, there was a balance-of-power struggle. Involved in it were secret diplomacy, rival alliances, propaganda, swelling armaments, and the growth of suspicion and fear between rival groups. The United States was not immune from it. The British agreed to give the French a free hand in Morocco on the understanding that the French would bless their intervention in Egypt; and Theodore Roosevelt, fresh from helping Panama separate herself from Colombia, swapped benedictions with both. Fourth, there were diplomatic "incidents," culminating in the murder of Austria's archduke and his wife at Sarajevo. Fifth, there was war.

Finally, our "economic interests" drew us into the war. The war interrupted our foreign trade. In an effort to recoup, we embarked on a war trade, chiefly with the Allies. To support it, we extended loans in growing amounts, first short-term, then long-term. The belligerents violated our neutral right to continue our sea-borne commerce. Britain went far, but Germany went farther by destroying American property and lives without warning. Having already an economic interest in victory by our debtors, we entered the war on the Allied side. Such is the story of hunger and greed. And yet there are reasons for doubting that the profit motive is the archcriminal.

PROFIT MOTIVE AS A "RATIONALIZATION"

Our doubts begin with what we know about human nature. We have a tendency, the more powerful when we get into large groups, to demand the dramatic. And surely there is something dramatically satisfying about nationalism. Perhaps living in the reflected glory of a nation has a *stronger* appeal than swelling our bank accounts. Bread and butter may inspire us less than Big Berthas and military bands. If this is so, we have excellent devices for convincing ourselves that our patriotic sentiment is economic sense. We are able not only to believe what we wish to believe but to invent plausible arguments in defense of it. Thus there is reason to doubt that the foundation of imperialism is mainly the profit motive, reason to suspect that we have a strong emotional desire to believe in imperialism and that we employ "economic" arguments to make our sentiment seem scientifically respectable.

An examination of the profits of imperialism tends to confirm the suspicion that the basis of imperialism is mainly sentimental. When it is remembered that the imperialistic World War cost mankind about \$3,000 a second for four and one-half years, that the general War of 1939 may prove to be even more costly, and that the economic cost of a very expensive war falls most heavily on the wealthy classes, it is clear that the policies leading up to war would have to be very profitable indeed to make up for the results of war itself. And these policies are not very profitable. There are arguments, of course, to the effect that imperialism raises the economic standard of living of the imperialistic country. It is supposed to do this either by providing colonial outlets for surplus population or else by promoting industrialization at home. The facts lend little support to either side of the argument.

IMPERIALISM AND POPULATION

No substantial population outlet is provided. On the eve of the World War there were more Germans in Milwaukee, not to mention Paris, than there were in the whole of Germany's colonial empire. The experiences of Italy in Africa and of Japan in Formosa and Korea were similar. The reason was that regions attractive to the people of the expansionist powers had been occupied long since. It is hard to take patriots seriously when they say that what they want is a "population outlet." It is difficult to avoid the conclusion that what they want is a place where emigrants can retain their *nationality*. If the object were not chiefly the expansion of their nationality, they would hardly try to

encourage population growth at home at the same time that they use population pressure to justify foreign adventures.

IMPERIALISM AND TRADE

The industrialization thesis is equally unconvincing. The cream was long ago skimmed off new sources of raw material, new fields for investment, new markets for products. If we were to conquer the British East Indies, we should still have to get rubber as we get it now—by buying it and paying for it. And its production would not cost any less merely because Old Glory flew there. About the only economic advantage would lie in getting rid of trade restrictions which Britain had imposed. As for investments, we have seen that the foreign departments of governments are concerned rather more with strategy than with rates of return. Nor do the markets gained in backward regions amount to much. Even if the natives were able and willing to buy a great deal, which they are not, it does not follow that they would buy mainly from their conquerors. It is misleading to suppose that "trade follows the flag." As Carnegie well said: "If a dealer in any colony wished to buy Union Jacks, he would order them from Britain's worst foe if he could save a sixpence." People tend to buy and sell where they can get the best prices. That is why Canada buys more from the United States than from the United Kingdom. Imperialist powers may use coercive measures to restrain their colonials from this ignoble conduct, but in doing so they embark on a difficult and expensive policy, as England once found out in her American colonies.

NATIONS NOT ECONOMIC RIVALS

Nations, although they are certainly rivals, can hardly be *economic* rivals. Economic relations cross and crisscross national frontiers. We compete with some foreigners but sell to others, just as we compete with some Americans but sell to others. When we speak of "German" trade stifling "British" trade, Sir Norman Angell observes, "it would be about as true to talk of light-haired people suffering by the competition of dark-haired people." In other words, economic rivalry does not run along national lines. It is only when the brunets belong to another "nation" that we blonds declare an open season on competitors. (Or when they belong to some "group" such that special group interests are given priority over interests that are common to the different groups.) Every alleged "economic" factor causing friction between nations exists as between, say, Connecticut and Massachusetts. Connecticut is thickly populated. She needs to import raw materials, to export products and

capital. But when she does so the people of Massachusetts do not think of going to war to end "the ruinous competition of Connecticut." They do not consider Connecticut another "nation."

BASIS OF INTERNATIONAL COMPETITION

The competition between nations, although economic weapons are used in its conduct, is not mainly economic in its object. Its foundation may be found in the annals of "nationalism," annals which are not short and simple. Nationalism is a combination of political nationality and national patriotism. Patriotism seeks prestige much less in cultural excellence than in superior force. It is a comparatively recent thing in the world, dating from about the latter part of the Middle Ages. The main factors which were instrumental in creating it may be roughly classified as the religious, the cultural, the political, and the economic, all operating over extended periods of time.

On the religious side, the Protestant Revolution, the development of sectarianism, the growth of science, and the decay of Latin language, all combined to lessen the spiritual unity which had been achieved in Europe under the aegis of the Church. Potentates were no longer answerable to one central authority. On the cultural side, the romantic movement in literature praised emotion, lauded the past, exalted folkways and folklore, and did about everything which stressed and exaggerated the distinctions existing between peoples living under different national jurisdictions. Typified by the writings of such authors as Sir Walter Scott and Chateaubriand, it flourishes today in such works as *Anthony Adverse* and *Gone with the Wind*. On the political side, certain strong monarchs, aided by gunpowder and Machiavellian principles, were able to weaken the Church above and the feudal vassals below them. When democracy substituted "the people" for the monarch as the object of loyalty, it became a life-or-death matter to have not only national schools and national journalism but national armament as well.

On the economic side, finally, both mercantilism and the Industrial Revolution speeded up the growth of nationalism. Mercantilism supplied princes with gold, which they found useful in subduing feudal barons. It also supplied countries with war, and war produced national heroes and national patriotism. The Industrial Revolution spread democracy and established the business class as the spokesmen of "the people." It has been able to knit people into great nations, but unable as yet to push the evolution to the point of world political unity.

These are only some of the factors accounting for modern nationalism. But they are enough to show that the interests which prompt inter-

national rivalry are economic only to a small extent. They suggest, too, that the growth of world co-operation will be slow. Nevertheless, nationalism is today a very costly institution, and any institution which comes to work more and more badly must gradually lose emotional support. In the short run, efforts to lower trade barriers have chiefly an emotional significance. They are symbols of good will. In the long run, they have the advantage of going with the current. Despite the setbacks caused by war and its aftermath, the long historical trend is toward world co-operation. People eventually manage to adjust their attitudes to better ways of doing things. It is the isolationist who swims against the stream.

PROBLEMS

1. Under what conditions are private foreign investments most likely to occasion serious international friction? Explain.

2. Assuming that the object is to prevent international friction, discuss the following policies with respect to private foreign investments: (a) preventing the investments; (b) making the investors take their own risks; (c) arranging "consortiums"; (d) transferring the ownership of investments to governments; (e) arranging world control by some body whose members do not represent national interests.

3. What is meant by "protectionism"? Discuss and illustrate its effects in terms of (a) the international movement of raw materials; (b) comparative disadvantage; (c) discrimination.

4. Concerning the protest of American economists against the Hawley-Smoot tariff, the *Boston Herald* of May 6, 1930, made this editorial comment: "The Boston men who have been watching the progress of the tariff bill these many months hold that academic remonstrance is one thing and that practical business is quite another. 'Leave the tariff to the manufacturers who are in daily contact with the problems of industry,' is their sentiment."

• Discuss the effects of this tariff on "practical business."

5. A little folder, sponsored by American sugar refiners whose names are not given, reads in part as follows: "This picture shows a scene familiar in our home ports today. A cargo of tropical refined sugar being unloaded for distribution in the United States. Every pound of this tropical refined sugar brought here supplants a pound of sugar refined in this country. . . . This impairs our national security and reduces employment *within* our country. To safeguard our sugar supply it should be refined *within* our country." Discuss.

6. In Vol. LXXVIII of the *Tariff Review*, Senator Reed Smoot advanced the following arguments in support of protective tariff:

(a) "It is an economic rule that no group, no class can be benefited without benefiting the whole."

(b) "A low tariff would necessarily reduce production in the United

States below the level at which it would stand with the protection of a high tariff."

(c) "The tariff is not a theoretical but a practical matter."

(d) "I shall always be found on the side of adequate protection, for I am an American."

Discuss these arguments.

7. Speaking in Boston during the presidential campaign of 1928, Herbert Hoover supported high protection in part as follows:

(a) We need protection against the low wages paid to textile workers abroad.

(b) Protective tariff is needed to maintain high wages in America.

(c) The theory that protective tariff curtails exports by curtailing imports loses practical force because (1) international trade is no longer a direct exchange of goods between one single nation and another; (2) about two-thirds of our imports are admitted free of duty; (3) import duties yield large government revenue; (4) we have large "invisible imports," such as the expenditures of our tourists abroad; (5) our exports and imports have increased greatly at the same time that our tariffs have been high.

Discuss these arguments individually, and with respect to their consistency with one another.

8. Discuss the tariff as a means of (a) developing industries needed for national defense; (b) building up infant industries; (c) keeping us out of war.

9. What are the main weaknesses of our process of tariff making? Discuss measures for their correction.

10. In what way has the need for reducing American import duties been intensified since 1914? Explain how the pressure might be relieved by a downward revision of the war debts owed to this country.

11. As measures for effecting an orderly increase of our imports, discuss (a) the substitution of subsidies for tariff protection; (b) the indemnification of workers and investors injured by the increase of particular imports; (c) international agreements to prevent dumping and the exploitation of labor; (d) our "reciprocal trade agreements."

12. Discuss the "economic interpretation" of the form of international competition called "imperialism," describing and criticizing the alleged economic arguments for this policy.

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XXXII

THINGS ENDING IN "ISM": SOCIALISM AND BOLSHEVISM

A specter is haunting Europe—the specter of Communism.—MARX AND ENGELS, 1848

A specter is haunting Europe—the specter of Communism (or words to that effect).—ADOLF HITLER, 1919-1939, 1941-.

I've been telling you for nigh three hundred years that something awful was about to happen.—"Grumpy," in WALT DISNEY'S *Snow White and the Seven Dwarfs*

The Attack on Liberalism

TO A GREAT many people the Liberalism in which Jeremy Bentham, Adam Smith, and their followers reposed so much confidence is not only bad but beyond redemption. In theory Liberalism is composed of two main elements: political democracy, or majority rule, and economic laissez faire, or private initiative. Together they are supposed to assure us of social justice and efficiency. Actually, the foes of Liberalism say, the results are of the opposite character.

BAD ECONOMICS

Listening to the critics who are broadly termed "Socialists," we hear substantially this: On the economic side, Liberalism preaches equality of opportunity but practices glaring inequality. Professing efficiency, it permits gross inefficiency. Using such means as monopoly and high-powered salesmanship, private interests waste social resources and defeat the public interest. Worse still, periodic depressions threaten the very existence of order and livelihood. As a result the individualism praised by this social philosophy has had to give way more and more to collectivism. Not only has public intervention occurred on an ever-widening scale, but it has shifted continually from local to central political authorities. This has happened out of necessity. Out of necessity it must

go much further. Sooner or later all the important means of production must be the common property of the people.

BAD POLITICS

Listening to the critics who are broadly termed "Fascists," we hear substantially this: It is on the political side that the really fatal weakness of Liberalism lies. Liberalism is essentially government by talk, as contrasted with government by action. The political representatives of the people—for in any large society Liberalism makes representative government imperative—have two main responsibilities: to govern when they are in office, and to get and keep themselves in office. In neither respect is it logical to predict anything better than a sorry performance.

With respect to the discharge of official duties, Liberalism degenerates into the low arts of logrolling and compromise. Suppose, for the sake of argument, that the representatives know what the people want, and that they make the popular interests their primary concern. (And this is conceding a great deal, since in fact the people are largely "out of sight, out of mind" to their representatives, who have interests of their own.) The fact remains that in any large popular assembly the problem of actually doing any specific thing which the people presumably want done is usually too complicated to be understood by more than a small minority. Yet—for that is Liberalism—the problem must be "settled" by the majority. Under the circumstances, however, there are two main ways in which a measure may be enabled to command a majority.

One way is to omit this feature because one group does not like it, that feature because it is repugnant to another, and so on, until by a process of emasculation the measure which is finally enacted has become too weak to accomplish anything. This way is called "compromise." The other way, a form of compromise called "logrolling," consists in a mutual exchange of favors, any one of which, if it stood alone, would fail to secure a majority. In reality the two methods come to much the same thing; namely, to a stalemate if the different "interests" are equally powerful, and to discriminatory legislation if they are not. And the situation is actually worse than this, because the different legislative blocs must all the while pay heed to the desires of uninformed voters who are more likely than not to want harmful legislation. To summarize, the logic of Liberalism points to some one of three results: no legislation, impotent legislation, or bad legislation.

This conclusion is only reinforced, the critics say, when we consider the Liberal method of securing office. Public officials must get and keep their positions largely by means of talk. The quantity of talk required

is so large that much time and energy is taken from official business. The quality of the talk presents a still more serious problem. A sort of "principle of diminishing returns" operates, the quality of talk varying inversely as the size of the group to which it is addressed. To enlist the sympathy of any group, talk must hit on the least common denominator, and the larger the group the lower is the denominator. This is necessarily so, because it is only *habitual* responses, based on "folkways" and "folklore," which the members of any really large group can have in common, and habitual responses are sentimental rather than thoughtful.

Thus it is not the best thinker, but the man who can most successfully appeal to crowd sentiments, who is most likely to gain and hold office under Liberalism. And it must be remembered that the competition for audiences is very bitter. This is all very well as long as no change is needed, as long as habitual responses work. When, in other words, there is nothing in particular to be done, Liberalism is admirably equipped to do it. But it works very badly when some change occurs which makes thinking necessary. Then the successful public talker, by intoxicating his audience with a powerful fusion of popular sentiments, typically induces the crowd either to stand pat when a change of policy is essential or else to embark on an orgy of "reform" which can only make matters worse.

PROPOSED REMEDIES

The leading remedies prescribed for the alleged infirmities of Liberalism have two important elements in common. First, they call, not for mere repairs, but for the substitution of some radically different system. They approach the problem in something like the spirit of *Rubáiyát*:

Ah Love! could you and I with Him conspire
To grasp this sorry Scheme of Things entire,
Would not we shatter it to bits—and then
Re-mould it nearer to the Heart's Desire!

Second, most of the programs would greatly restrict private initiative and expand public control. With respect to the nature of this control, the programs may be divided broadly into two types, the "socialistic" and the "fascistic."

The various socialistic schemes agree in demanding two things: first, democratic government; second, the abolition of the private property system in favor of the common ownership of land and capital. In general, they agree on reforming democracy by educating and otherwise perfect-

ing the electorate, although they disagree with respect to the changes that should be made in the system of representation.

Fascist systems also agree on two things. First, they retain the private property system, although with considerable modification. Second, they substitute autocracy for democracy, as these terms are understood in countries like our own. Instead of essaying the supposedly hopeless task of reforming the electorate and popular assemblies, they frankly transfer power from the many to the few. In this way they claim to substitute realistic knowledge for impassioned ignorance. As they see it, public talk is dangerous, and they would no more allow all comers to play with it than they would allow children to play with bombs. Regarding it as a "public utility," they subject it to control exercised by specialists.

In theory, therefore, Socialism and Fascism may sound like direct opposites. But we shall later have occasion to see that the contrast is not nearly so sharp in practice.

Socialistic Theory

So great has been the influence of one man on modern revolutionary doctrine that it is almost fair to divide socialistic philosophies into "Marxism" and "others." Born in the Rhine Provinces in 1818, Karl Marx was the son of an unorthodox Jew who made his living as a legal official. In school the younger Marx proved himself a brilliant student of history, philosophy, economics, and law. Although well equipped for a successful career as a teacher or public servant, he was led by his interest in radical reform into journalism, and thence into continual conflict with government officials. In 1843 the Prussian authorities suppressed a newspaper of which he was editor. He went to Paris, where he became the friend of Friedrich Engels. Expelled from Paris in 1845, he went with Engels to Belgium. On being expelled from Belgium in 1848 he returned to Germany, whence in 1849 he was expelled for the second time. On this occasion he went to England, where he spent most of his remaining days and where he died in 1883.

MARXISM

In its essential features, the revolutionary theory of Marx appeared in the *Communist Manifesto*, published by Marx and Engels in 1848. The theory advanced in this brief tract was elaborated in Marx's huge work, *Capital* (*Das Kapital*). The chief features of *Capital* are two: first, voluminous illustration of the evils existing under Capitalism, and supposedly because of it; second, an untenable doctrine of "surplus value" purporting to explain the exploitation of laborers by employers. It is not

certain why Marx used the surplus-value doctrine, as he might easily have employed sound reasons to show why employers exercise an unfair advantage over laborers. He may have done it because of muddled thinking. Or he may have done it for purposes of propaganda, since it is certain that the doctrine makes the exploitation seem peculiarly offensive.¹ In any case the proposition mainly emphasized by Marx is this: that Socialism, whether better than Capitalism or not, is the inevitable product of Capitalism. The argument which yields this conclusion consists of three general doctrines.

ECONOMIC INTERPRETATION OF HISTORY

The first doctrine is the "economic," or "materialistic," interpretation of history. Consciously or unconsciously, the opinions and actions of men, as expressed in religion, politics, and all other significant aspects of life, are determined by the desire for material gain and the repugnance to material loss. The economic system, as the embodiment of material conditions, explains everything of importance. Economic changes lie at the bottom of all social changes. It was because of economic changes that the business class gained ascendancy over the feudal lords. In due time further economic changes will lead the laboring class to wrest the control over wealth from the business class. In making this prediction Marx attaches little importance to such motives as the desire for national glory, the desire for prestige, the desire to be like or unlike other people, the desire to be good or noble. It is all to come about for economic reasons: because of the "concentration of capital" and the "class struggle."

CONCENTRATION OF CAPITAL

The doctrine of the "concentration of capital" supposes that, owing to constant increase in the size of business enterprises, a larger and larger

¹ Marx actually chose to argue first, that the exchange values of commodities are determined by the comparative amounts of labor used in producing them; second, that the costs are depressed below the exchange values because employers hold the wages of labor down to the subsistence level, taking the "surplus" for themselves. But exchange values are not determined by costs alone; nor are costs solely a matter of labor costs, nor are wages held down to the subsistence level. Marx would have been on sound ground in arguing as follows: Labor is exploited in two ways. First, it frequently fails to get as much as its marginal product, because employers do not compete "fully and freely" for labor services. Second, there is a strong case for giving common labor more than its marginal product, because some of the interest and most of the rent which are received by the employing class are unearned. Third, the same system of private property which confers unearned interest and rent (also some unearned profit and wages) on the rich deprives common laborers of a fair opportunity even to increase the marginal productivity of their labor. But, when the object is propaganda, it is more harrowing to hear that Capitalism will hold larger and larger masses of the population down to the starvation level.

proportion of the population will be squeezed out of the business class and forced into the laboring class. In this respect Marx proceeded on some assumptions which now seem curious.

He assumed that a decrease in the number of firms is equivalent to a decrease in the number of the business class. But the coming of corporations and corporate combinations, although it has concentrated the control over business, has not decreased the number of persons—the security holders—having a pecuniary interest in business. Marx assumed also that farming, as well as industry, will be operated in units of constantly expanding size by an ever-decreasing number of landowners. He exaggerated the place of large-scale methods in farming, and underrated the individualism of farmers. He further assumed that owners and workers must be sharply distinct. There is little room in his theory for the worker who has private property in the form of a house, or land, or corporate securities; little room for the employer who makes less than many skilled workers do. He also expected—what has not happened—that all workers will be hammered down to the same miserable level, so that all will have “nothing to lose but their chains.” This leads to the third doctrine.

CLASS STRUGGLE

The doctrine of “class war” supposes that the workers must eventually overthrow the businessmen and take their ill-got wealth away from them. To an increasing degree, as time goes on, the workers get both the incentive and the power to do this. Held down at all times to a minimum of subsistence by brute force—by the power of the owners to withhold employment, and even to set the mercenary police and soldiers on them—they find their plight further aggravated in two special ways. First, periodic depressions become increasingly severe. Second, Capitalism leads to imperialism, and thence to war. “The need of constantly expanding markets,” proclaims the *Manifesto*, “chases the bourgeoisie over the whole surface of the globe.”

Thus the workers are reduced to a position where they have little to lose and much to gain by revolution. At the same time, they have every prospect of success. They have become so numerous, and the owners so few, that they need only unite. And the development of modern communication has enabled them to unite—first in local, then in regional, and finally in national and international organizations. Besides, owing to the concentration of capital, the economic system is sooner or later made-to-order for socialistic control. At the right time, therefore, the workers seize control. If the owners listen to reason, allowing themselves to be

peaceably voted out of power, well and good. If not, violence becomes necessary. The revolution is now marked by two general phases.

PHASES OF REVOLUTION

First, there is a "dictatorship of the proletariat." The working class assumes complete control in order to prevent counter-revolution and to finish the job of transferring land and capital from the business class to the masses. During this period the State remains the instrument for the control of one economic class by the other, except that the tables are turned.

Second, the State gradually "withers away" and eventually disappears. The members of the business class fade out. As the Russians have it, they are "liquidated." Although Marx is not too clear about the details of the fade-out, we may assume that such members of the old ruling class as cannot be educated to the merits of the new order are competently subdued, whereas their descendants are brought to see the light. Perhaps the methods actually employed by Christians and Mohammedans in converting each other to the True Faith will give us a fair idea of the process. At any rate society winds up by having only one class, the working class; and, since the function of the State is to help one class impose on another, there is now no longer any occasion for having a State. Thus the revolution is at last complete. It has ended in "Communism."

Such seem to be the leading features of the Modern Bible of Revolution. But the student should test the accuracy of this brief account by reading at least the *Communist Manifesto*. Perhaps few Marxists would agree that the present description really describes Marxism. At the same time it is only fair to state that Socialists, few of whom have ever read *Capital*, disagree profoundly among themselves. They disagree about what Marx meant. And, even in so far as they can agree on what Marx meant, they disagree about the correctness of what Marx meant. Thus, as in the case of other religions, we find a number of sects, the different sects being even more bitter toward one another than they are toward competing religions.

VARIETIES OF SOCIALISM

The varieties of Socialism are created mainly by the fact that Socialists differ concerning the forms which they think democratic government and the collective ownership of property should assume. There are also differences of opinion with respect to the methods of bringing

Socialism into effect. To avoid wordiness, let us speak of the leading varieties as if they were in actual operation.

STATE SOCIALISM

Under *State Socialism*, which probably enjoys the largest following, the State owns the chief means of production, including land and all the major forms of capital. Consumption goods, personal effects, and relatively unimportant tools such as are used in the care of home and garden, may be privately owned. The State controls production. Its officials determine the types of and comparative amounts of products, and also, to a great extent, the technique of production. Capital is secured chiefly by the device of setting resources to work in producing such capital goods as the authorities decide upon.

Distribution, too, is controlled by the State. Since all employable persons are workers for the State, personal income is received almost wholly in the form of wages. As the "efficiency" principle of distribution is strongly tempered by the "need" principle, economic inequality is much less pronounced than in Liberal societies. Probably wages are paid in money, and citizens spend their money mainly as they like, and the authorities are guided by past profit and loss in determining the amounts of different products for the future.² The officials of the State are selected democratically. Save for the position of the former business class, Marx's "dictatorship of the proletariat" is essentially a system of State Socialism.

COMMUNISM

Communism goes further than State Socialism. In some of its varieties it also goes faster. It goes further in two respects. On the economic side it extends public property to consumption goods. The public at least controls consumption goods if it does not own them. (To illustrate—the Amana Society, in Iowa, imposes a strict limitation on the use of luxuries.) On the political side Communism restricts the coercive power of the State more than State Socialism does. "Voluntary association" is to take the place of compulsion. The groups which associate are the "communes." They are comparatively small, consisting of given rural communities, the workers of given factories, and the like. As between communes, the association is voluntary in the sense that it consists primarily of an exchange of products, and that the exchange is subject to little or no intervention by central authorities. Within communes, the

² And the authorities probably maintain enough competition, in the accounting sense, to tell how productive *different* agents are, from industry to industry and from firm to firm.

association is voluntary in the sense that enlightenment makes coercion unnecessary. Such officials as are required advise instead of ordering.

Communism goes faster than State Socialism in the respect that Communists are typically in something of a hurry to get their system adopted. In contrast with the mildness of *established* Communism stands the characteristic vigor of communistic *methods* of getting established. Orthodox Socialists are content to wait until Capitalism has done a good job of forging the tools of its own destruction, at which time they rely mainly on ballots to impart the finishing touch. American Communists, although denying that they would substitute "bullets for ballots," go far in fostering class hatred and class struggle; and they propose a speedy communizing of property on a comprehensive scale. Some Communists, however, conceive of Communism as the situation which follows the "withering away of the State," and are willing to accept Socialism as an intermediate step.

ANARCHISM

Anarchism is so indefinite as to recall Anatole France's wheeze about the metaphysicians whose labor included "the definition of the Infinite." One thing, however, is certain: anarchism is not bomb throwing. Terrorism is not a part of the doctrine, and it is rarely a part of the Anarchist's conduct.

Modern Anarchism began as a revolt against the hatred and the coercive power of the State which characterize Marxism. As liberty is the supreme good, so coercion is the supreme evil. If it is bad for the minority to coerce the majority, it is not much better for the majority to coerce the minority. Society can be held together by sympathy and mutual respect. As Prince Kropotkin pointed out, the tendency to mutual aid is strong among most animals and especially strong among men. Besides, men shrink more from the mere ill-feeling of their fellows than they do from any violence to which the ill-feeling may lead. If work were made as pleasant and productive as it might be, few men would avoid it, and everybody, including the lazy few, might share equally in the common product.

Eliminate coercion, reform production, and society can get along comfortably under a system of free exchange. A handful of "individualist Anarchists" even propose the private ownership of both production goods and consumption goods. The more numerous and influential "Communist Anarchists"—they reside mostly in the Latin countries—believe in communal property, ownership vesting in local communes.

SYNDICALISM

Syndicalism differs sharply from State Socialism with respect to the form of democratic government. Under State Socialism the people are represented by their officials, mainly according to their interests *as consumers*. In the view of State Socialists, production exists solely or almost solely for the sake of consumption. According to Syndicalists, on the other hand, men spend such a large part of their time in work that they find their happiness or unhappiness chiefly in work itself. If, therefore, work is a means to an end, that end is not so much consumption as it is the development of the human personality. Since the workers in each shop know best the needs of their occupation, it is vitally important that the shop should be self-governing. And, since the workers in each industry know best the requirements of that industry, it is further necessary that society should be organized along industrial lines.

Under Syndicalism, therefore, people are represented chiefly according to their interests *as producers*. The basis of the organization is the self-governing "workshop," or local unit of industry. The local units of each industry are to be grouped regionally, and the regional units nationally, the end result being the national "syndicate," which is an industrial union on a national scale. The national government then becomes a federation of national syndicates, a body which is advisory rather than executive. The agents of production are owned by syndicates, and probably distribution is according to syndicates.

As Syndicalism grew out of industrial unionism, especially in France, it is not strange to find that the syndicates are supposed to overthrow the old order as well as control the new. To the true Syndicalist, the Socialist who hopes to crush Capitalism with ballots is but a flabby creature. "Direct action"—strikes, boycotts, sabotage—is the thing. The ideal form of it is the general strike, which will bring Capitalism to its knees by stopping all industries at once. The more commonplace walk-outs and bits of violence which occur from time to time are in the nature of rehearsals for the grand performance, the general paralysis of industry.

In the matter of methods, the Syndicalists stand in especially sharp contrast to the *Christian Socialists* and the *Fabian Socialists*. The Christian Socialists, pointing out that Christ was essentially a believer in the common ownership of wealth, propose to reform society by eradicating selfishness from man's character. The Fabian Socialists seek to introduce Socialism piecemeal, nationalizing here the coal industry, there the power industry, and so on, as a propitious occasion arises. They also emphasize the idea that the adoption and successful operation of Socialism depends

on a painstaking process of popular education. In the opinion of Syndicalists, however, such slow and sentimental tactics could only break the spirit of the revolutionary movement.

GUILD SOCIALISM

Guild Socialism combines the more general principles of State Socialism and Syndicalism. As producers, the people are represented through "guilds," which are essentially the same thing as the syndicates discussed above. As consumers, they are represented through such organizations as consumers' co-operatives; and they are similarly represented with respect to health, education, religion, and so on.

There are various methods of co-ordinating the different interests into a single system of control. One method runs substantially as follows:³

The different functional organizations of each locality are represented in a local "commune." There are also district or regional communes; and at the head of the whole organization stands the national commune, which is the State. The internal operation of industry is controlled by guilds, the basic unit of each guild being the self-governing "workshop"; and the national income is distributed according to guilds. But the State controls general policy. By fixing prices it protects consumers from exploitation, and by charging guilds for the use of productive agents it secures a proper balance among industries. It also determines the jurisdiction of the guilds, provides the machinery of internal law and order, and controls the country's foreign policy.

From these ideas of revolution and its outcome we now turn to the actual process and results of revolution in Russia, in Italy, and in Germany.

Russian Bolshevism

The Romanov dynasty of Russia assumed power in 1613. The ruling class which it represented consisted mainly of the owners of land which was farmed by serfs. Serfdom, which dated back to earlier times, was made hereditary in 1646; and a decree of 1675 made serfs liable to sale apart from the land to which they had been attached. During the next year Stenka Razin led a peasant revolt against this arrangement, but his band was quickly suppressed and he was put to death. Following this time, however, a combination of factors promoted the long decay of feudalism.

³ Compare G. D. H. Cole, *Guild Socialism* (1920).

CAUSES OF REVOLUTION

One factor consisted of contacts with Western Europe, in which a decline of autocracy was under way. During his reign from 1682 to 1721, Peter the Great, while failing in his ambition to bring Western efficiency to Russia, succeeded, perhaps against his will, in firing many upper-class imaginations with the ideas of democracy. The German-born Tsarina, Catherine the Great, although she executed Pugachev for leading a peasant rebellion, did much to undermine the faith of her class in serfdom, and for the same reason.

INCONSISTENCY

A second factor was the inconsistency of the autocracy. Uncompromising subjection of the masses was followed by concessions, concessions by reaction, reaction by concessions, and so on. The people bitterly resented the removal of any liberty which they had once been allowed to taste. Alexander I adopted enough liberal reforms to make the masses dissatisfied, and his death in 1825 was the signal for revolt. His son, Nicholas I, who ruled until 1855, put down the rebellion in blood. It was at this time that the literary genius Dostoevski was exiled to Siberia. Alexander II tried to reverse the policy of Nicholas I; but his reforms of 1861 gave the serfs less land than they had to have to make a living and required them to pay more for it than most of them could pay. Twenty years later the Narodniki, or "People's Liberty" party, a group of terrorists headed by Lavrov and the famous Anarchist Bakunin, rewarded Alexander II with assassination. Alexander III adopted a brutal policy of reaction.

Nicholas II, under the influence of his wife the Tsarina, who in turn was under the influence of the monk Rasputin and other members of the inner circle, allowed this policy to be continued. On "Bloody Sunday," January 22, 1905, a crowd of St. Petersburg workers, led by Father Gapon to the Tsar's palace to plead for relief, was fired on by troops, and 1,500 were killed or wounded. There followed widespread strikes and violence; and the first workers' "soviet," or council, was founded. The government conceded a Duma, or parliament, which was to be elected by the people. As soon as the rebellion was under control, however, the authorities suppressed the soviet, abolished popular election of the Duma, and settled down, from 1906 to 1913, to execute some 3,000 persons. A fourth of all the arable land was owned by 200,000 landlords, while abject poverty prevailed in 16,000,000 peasant homes.

INDUSTRIALIZATION

A third factor was the rapid growth of manufactures which began during the reign of Alexander III. This served to concentrate wage earners in cities, where they readily got together on mutual grievances. They were not so oppressed as the peasants, and not nearly so numerous; but their superior unity and alertness gave them greater strength as a class. It was mainly industrial workers who petitioned Nicholas II for redress, who staged the strikes that followed "Bloody Sunday," who in the spring of 1917 participated in the riots which marked the downfall of the monarchy, and who in the autumn of the same year rallied around Lenin in the Bolshevik revolution which overthrew the Menshevik regime of Kerensky.

REVOLUTIONARY CLASS

A fourth factor was the development of an able revolutionary class. Perhaps it was made possible by the growth of the city wage class.

MENSHEVIKS

1. Let the middle-class Liberals into the party. We need their help to overthrow the autocracy. We can get rid of them afterwards. The internal government of the party should be democratic and decentralized.

2. There can be no revolution until industrialism is well developed in Russia. Until then there will be no big wage class favorable to Communism. When we have this class, however, the suppression of the Liberals will be easy.

3. Communism will have no chance in Russia unless there is a Communist revolution throughout the world in general. Otherwise the Capitalists outside Russia will intervene to crush our Revolution.

BOLSHEVIKS

1. Liberals would give the party a vested interest in Capitalism, and would turn the party into a debating society. Only disciplined revolutionists belong. The internal government of the party must be highly centralized. A selected few must give orders and the rest must obey.

2. Instead of waiting so long, and giving the Liberals time to become strong, use the peasants to set up Communism right away. Promise them the land. It can be withheld or taken from them later.

3. The surest way to provoke outside interference is to meddle with world revolution. If we mind our own business, outsiders will be so busy with their own troubles that they will let us alone until Communism is well established here. Then we can get around to world Communism.

Certain it is that the two were contemporary. The Social Democratic party, instead of relying on sporadic terrorism, became a disciplined group having a program for overthrowing autocracy and establishing Socialism. In 1903 it split into two wings, both professing to follow Marx, but differing substantially as above with respect to the procedure of revolution. Despite factional differences, and in spite of "persecution"—Stalin, for example, was three times exiled to Siberia—the revolutionary movement grew continually stronger.

WAR

A fifth factor was war. If not too expensive, a victorious war is likely to solidify a regime with its people; and even an expensive victorious war serves to take men's minds off their grievances for a time. But an expensive losing war is an unmitigated misfortune. Alexander I waged a war which was at least victorious. He defeated Napoleon in the fashion masterfully described by Tolstoy in *War and Peace*. That is, he won because he failed in his purpose of keeping Napoleon away from Moscow, while Napoleon lost because he succeeded in his purpose of getting there. Nicholas I was less fortunate. He lost the Crimean War.

With the unhappy Nicholas II, or Nicholas the Last, losing became something of a habit. If the loss of the Russo-Japanese War did much to shake the faith of the people in the monarchy, the sorry showing of Russia in the World War, added to the other factors outlined above, ended the monarchy altogether. In the ability to take punishment without flinching, Russia's common soldiers have more than once proved themselves as good as any. But from 1914 to 1917 the Russians were miserably led, at the front and at home. Ill-fed and badly equipped—a large part of the troops conquered by Ludendorff and Hindenburg lacked ammunition and many of them lacked even rifles—the soldiers did not have a chance. The people back home, pushed to still more deplorable depths by the expense and mismanagement of war, did not have so much as hope to sustain them. In March, 1917, popular desperation was expressed in what might have looked like an ordinary street riot. But it had the unusual feature that the soldiers who were ordered to fire on the rioters disobeyed and joined the rioters instead. That proved to be the end of feudalism in Russia.

COMING OF BOLSHEVISM

When the monarchy was overthrown there was set up a provisional government which was at first Liberal, and later, under the leadership

of Kerensky, Menshevist. But it assumed control under extremely trying circumstances. It had to cope with the dissolution of the army, the seizure of land by the peasants, the unruliness of workers in the cities, the demand of non-Russian minorities for independence, and the efforts of reactionaries and Communists to crush it. Although the main common interest of the people was that of getting out of the war, Kerensky tried to keep Russia in the war. He tried also to prevent such a radical redistribution of privilege as was called for by the actual balance of power among different groups. The balance swung strongly in favor of the Bolsheviks, who made telling use of their discipline and of their slogan, "Peace and the Land!" Lenin, whom the Germans had smuggled into Russia from Switzerland in a sealed car, made the most of the situation. In November this brilliant organizer, backed by enough workers, sailors, and soldiers, seized Petrograd and set himself at the head of a Bolshevik regime.

PHASES OF BOLSHEVISM

Since then the new order has passed through two main periods, and is now in a third. The first was the period of "War Communism." The attacks of counterrevolutionaries and foreign powers were beaten off, and Communism was established. Land and industrial plants were made common property, the former to be operated by the peasants, the latter by soviets of workers. Money, prices, and free markets were partially abolished. In order to get the right amounts of different products, as determined by a central economic council, industrial labor was conscripted, and grain was requisitioned. The serious decline of production under this arrangement led to the adoption, in 1921, of the "New Economic Policy" which marked the second period. The *Nep*, which Lenin, described as a backward step taken in order to spring forward, restored the mechanism of prices and markets, and permitted the competition of private with government shops and factories. Labor conscription was dropped, and the arbitrary requisitioning of grain from peasants was replaced by a definite levy on gross output.

In 1927, however, when production had been brought back to about the prewar level, the Bolsheviks embarked with determination on the policy of liquidating private enterprise and substituting for it socialized production under comprehensive central planning. In the following year began the operation of the first of Russia's famous "five-year plans." The discussion which follows relates to the period of "planned economy."

GOVERNMENT

In form the the Union of Soviet Socialist Republics is a federation of republics and autonomous regions. But in two ways the arrangement differs sharply from our own federalion of forty-eight states. First, the governmental machinery is designed specifically for the management of a planned economy. Second, the machinery is run as a dictatorship.

Although a dictatorship, the Russian system is far from being a "dictatorship of the proletariat." It would be easy to draw a misleading diagram purporting to show how the masses run Russia. In terms of the 1936 Constitution, the diagram would run as follows:

As members of the Union the people elect deputies to the central Council of the Union, and as members of republics and autonomous regions they elect deputies to the central Council of Nationalities. Together these two councils make up the Supreme Council, which is the legislative body of the Union. This legislature has two sessions a year. Between sessions its business is carried on by a Presidium, a committee which is selected by the Supreme Council. It is also the duty of this committee to call meetings of the Supreme Council, and, if the two houses of the Council fail to agree, to disband the Council and call new elections. The Supreme Council selects and holds responsible the highest executive body, which is the Council of the People's Commissars. The executive body has numerous committees, the most important being the State Planning Commission, which heads up the economic planning. A somewhat similar machinery exists in the divisions and subdivisions of the U.S.S.R. The citizens elect People's Courts in the various districts. Over these courts stand the supreme courts of the republics and autonomous regions, selected by the corresponding supreme councils; and at the head of the judicial machinery is the Supreme Court which is selected by the Supreme Council of the Union.

So the diagram. Directly or indirectly the masses elect everybody. But one should not be conquered by an absurdity merely because it is accompanied by a diagram. In the main the people "elected" are first selected by the Communist party, a group comprising only about one-fiftieth of the population; and over the party stands the tiny Political Bureau; and in charge of the Bureau is the party chief, Joseph Stalin.

THE COMMUNIST PARTY

The party membership can expand only in so far as expansion is compatible with purity. Bolsheviks adhere rigidly to their principle that only disciplined revolutionists belong. A disciplined revolutionist is one who believes what the party officials tell him to believe, and who is alert

to hold the fort against anybody believing otherwise. Discipline is instilled in two ways.

First, young people are trained in the true doctrine and its practice. The party supervises the education of some 6,000,000 Young Pioneers. Qualified graduates of this group receive further training as Young Communists, an organization now numbering about 5,000,000. On reaching the age of twenty-three, properly educated Young Communists become Communists.

Second, the party now and then purges itself of impure members. Impurity ranges from impure talk to impure action. Anything smacking of sabotage is criminal. People are encouraged to speak critically of details, such, say, as the technique of assembling tractors; but even the mildest protest against "the party line" of Bolshevik principles is taboo. Penalties are swift and very severe. The personal liberty ostensibly guaranteed by the present Constitution—freedom of speech, of press, of assembly, of street demonstrations, of religious worship—is subject to this qualification. So is the right of a labor union to strike. Having no effective opposition, the party enforces rules against nonmembers as well as members. The government of Russia is an immense civil service run by a small but highly unified class.

Besides maintaining common ownership of productive agents, Russia's economic system differs strikingly from our own also in two other respects. That is, the personal distribution of income is much less uneven, and the initiative in production is assumed mainly by the State.

DISTRIBUTION OF INCOME

As land and capital are common property, personal incomes take mostly the form of wages. The wages include the "marginal product" not only of labor but also of land and capital, less a deduction which must be made because part of each year's product consists of additional capital goods belonging to the people as a whole. Thus inequality of incomes is substantially the same thing as inequality of wages. It is true that wages are by no means equal from worker to worker. The principle of dead-level equality was given up when the period of War Communism came to a close. The authorities now hold it absurd to pay a routine worker as much as the man who takes the trouble to become a skilled engineer, or to pay the lazy workers of one factory or farm as much as the industrious workers of another. Wages vary with both quality and quantity of work.⁴

⁴ This principle is incorporated in the 1936 Constitution. Article 12 contains the statement: "In the U.S.S.R. the principle of socialism is realized: 'From each according to his ability, to each according to the work performed.'" Article 118 begins: "Citizens of

Some critics contend that, if labor income alone be considered, personal incomes are more uneven in Russia than in America. But certainly this is not so if all sources of income be taken into account. You will not find in Russia, as you do in America, persons getting a thousand times the general average of income; and every Russian getting even ten times the average can be readily matched with an American getting a hundred times the average.⁵

PLANNED PRODUCTION

On the side of production, Russia's "planned economy" is not merely a substitution of public for private initiative. The State Planning Commission does not simply seek the same general result which we seek, namely, a large national income. It also seeks results differening in *kind* from our own. For example, the Russians do not allow the amount of capital equipment to be determined by the amount of voluntary saving. Instead, realizing that Russia is backward in equipment, they are extending the capital supply much more rapidly than we are. They do it by using an abnormally large part of their resources for the production of capital goods, letting consumption goods suffer correspondingly.

Even consumption goods are not produced according to private desires. Under our system, consumers mostly decide for themselves what is good for them, spending their money as they please, and producers adjust their outputs to consumer expenditures. This tends to bring costs and selling prices together. Not so in Russia. The Planning Commission itself largely decides how people should spend their money. When it likes it encourages the consumption of an article by setting the price below the cost, and subsidizes the industry to make up the difference. It may sell export articles below cost; and it may subsidize manufacturing industries with the idea that industrial workers make especially good Communists. To discourage the consumption of an article, it can raise the price above the cost, refusing to let the industry keep the difference. Credit is distributed on the same principle. It is not necessarily important that a borrower should be able to repay a loan. It is enough that the

the U.S.S.R. have the right to work, *i.e.*, the right to guaranteed employment and payment for their work in accordance with its quantity and quality.⁶

⁵ Until within the last few years the real wages of high-paid workers were not nearly so large as the money wages. As the authorities were setting maximum prices and inflating the currency at the same time, it was necessary to ration many commodities; and the rationing was such as to prevent much of the larger incomes from being spent for goods at the fixed prices. (During the "Nep" period, the income which could not be spent at government stores might be spent in the "free market"; but, when this was the case, enormously higher prices had to be paid.) The discontinuance of rationing has made for inequality of distribution. The gradual relaxation of discrimination against "impure" Russians is having a similar effect.

authorities want the loan made. "Turnover" taxes, ranging as high as 85 per cent, are used in the same way.

INDUSTRY

Except in the case of agriculture, which will be considered later, the Council of People's Commissars exercises strong control over all important branches and phases of production. It has separate divisions for heavy industries, light industries, lumber, food supply, foreign and domestic trade, transport, labor, finance, defense, foreign affairs. (With respect to economic matters, each of the republics is similarly organized.) Subject to general outlines laid down by the party for several years ahead, the Planning Commission works out detailed plans for a year at a time. Each industry typically groups individual establishments into one or more "trusts," over which stands a "central administration." Tentative plans go down the line from the Planning Commission to industrial administrations, trusts, and establishments for revision; then back up the line to the Commission for revision of the general plan; then down the line again in final form.

The plan specifies what outputs establishments are expected to produce, what prices they must charge, what kinds and amounts of labor, materials, and so on, they can have, and at what prices. Plants, trusts and industries are supposed to fulfill their quotas and show profits. If they do better than this, they may receive special rewards, such as honors and promotion for workers, a new gymnasium for a plant, or a foreign tour for some outstanding workman. If they do worse, they face the task of explaining to party officials. Interplant competition is encouraged, and sometimes individual workers strive to break records, just as riveters did in British and American shipyards during the World War.

AGRICULTURE

The State tries to plan agriculture somewhat as it plans industry; but, except in the case of State farms which comprise only about a tenth of the cultivated land, it cannot control the operation of its plans so rigidly. Most of the farming is now done by "collectives." In the collective of the dominant type, the "artel," all the main means of production—land, barns, machinery, draft animals—are used collectively by a number of peasant farmers who work at planned tasks under a group leader.

To understand the present status of collective farmers it should be remembered that the peasants were never enthusiastic about communistic farming. As their support had been enlisted with the promise of "Peace and the Land," they felt that land should be owned by individual peas-

ants, or, at the least, by local communes. When the State not only took the land but also tried to collectivize the use of it, and even attempted to extend party discipline of rural Russia, they resisted. At first the State met the resistance by the "liquidation of the kulaki"—by the expropriation and brutal treatment of well-to-do farmers, including anybody so well disliked by his community as to be officially designated a "kulak." When output slumped under this policy, Stalin called a halt, and a policy of compromise was substituted.

The State does not now try, as in the case of industry, to make groups of farmers live up to fixed quotas, or to control personal incomes rigidly. Instead it requires each collective to sell to the State, at low prices, specified proportions of its different kinds of produce; but anything in excess of this "tax" it allows the collective to sell on the open market.⁶ The State also undertakes to train farmers in the use of machinery and fertilizers, in the rotation of crops, and the like. The collective thus has a chance to raise its group income by being industrious and intelligent. Within the group, personal incomes differ according to quantity and quality of work.

MARKETING

The mechanism of marketing resembles our own in the movement of goods from producers of raw materials to processors, and so on to wholesalers, retailers, and consumers. It is dissimilar, of course, in the respect that the dealers work for the State, not for private profit. In the late 1930's the process was much simplified by dropping the practice of rationing and by stopping the competition of private with State dealers. This put the authorities in a better position to plan production according to the desires of consumers, as expressed in purchases. It was necessary, however, to put an end to price fixing, and to stop extending loans and levying taxes on the existing principles, before it could be truly said that production was governed by the free choices of consumers. During a major war, of course, neither Russia nor any other belligerent nation attempts to rely on the voluntary action of consumers as the fundamental basis for the control of production.

FOREIGN TRADE

In controlling foreign trade, the Russian planners are no more dismayed than American tariff makers by mere comparative advantage and comparative costs. They do not determine their imports of an article by

⁶ But inasmuch as the collective can sell only to agencies controlled by the State, it is fair to doubt that the market is especially "open."

the amount they can take at comparative advantage. Instead, they decide how much they "need," in terms of what they think best for communistic Russia. Nor do they simply export a commodity up to the point where the home cost is as high as the foreign cost. Instead, they export whatever is necessary in order to get the imports they "need." When this means that they have to sell abroad below cost they do not let it worry them. Because they have a monopoly over foreign trade, they sell below cost and recoup the loss by selling at profitable prices in the home market. The limits to the use of this device are set by the pressure which foreign producers and Russian consumers can bring to bear on their respective governments.

The general fixing of prices in Russia has been related in an interesting way to the volume of the currency. To illustrate the point, suppose that all prices are fixed. If there is not enough currency to take the actual outputs of products at the fixed prices, products will either waste or else prices will have to be lowered. If there is too much currency to take the products at these prices, then the authorities must either raise prices or else ration the commodities. In short, prices must be adjusted to currency or currency to prices. There has been a tendency in Russia to adjust currency to prices. Of course the authorities have not set prices in utter disregard of the amount of currency. But, in the fear of setting prices so low that the complicated task of rationing or raising the prices would have to be faced, they have set prices comfortably high and then resorted to the simpler expedient of inflation when the time came. Thus the 1936 *Handbook of the Soviet Union*, compiled by the American-Russian Chamber of Commerce, tells us that the currency in circulation rose from 1,970.8 millions of rubles on October 1, 1928, to 6,493.0 millions on September 1, 1932.

RESULTS OF PLANNED ECONOMY

Russia has operated under two successive five-year plans, the first of which fell in the years 1928-32. It would be misleading, for several reasons, to judge the results purely by the statistics appearing in the *Handbook* which was just now mentioned.

First, any increases of production which are estimated in terms of ruble values are subject to the qualification that the buying power of the ruble itself declined. Second, the quantity of goods in general, and of capital goods in particular, was so low at the outset that *absolute* increases of output did not need to be great in order to cause great *percentage* increases. Third, the arbitrary policies of the planners had the result that equal units of expenditure, from one product to another, did

not mean anything like equal amounts of satisfaction to consumers. But perhaps it is fair to set off against this waste the waste which occurs in our own country on account of monopoly, competitive advertising, and unnecessary duplication of plant. Fourth, the quality of many products was very poor. The neglect of consumption was partly responsible for this fact. Fifth, although it is arguable that the Russians did not know or care, "red tape" went far to prevent work from being a pleasurable activity in itself. Finally, the Russians adopted appliances and methods which had been developed in competitive societies; and it is reasonable to doubt that Communism will prove equally fertile in developing things for itself. In spite of all this, however, progress has been surprising in some respects.

For the four and one-quarter years of the first Plan, we find such increases as the following. In terms of rubles, the national income rose 86 per cent, and industrial production as a whole rose 125 per cent. But the increase of industrial production was much less for consumption goods (86 per cent) than for production goods (173 per cent). The output of metals was raised over two times; of fuel, over three times; and it was claimed that the 1932 output of machinery was from nine to ten times that of 1928. Estimated in tons, grain production fell slightly while cotton production rose 55 per cent. This was the period of collectivization. Since the authorities claimed an increase of 19 per cent in the sown area, it is clear that no wonders of efficiency were wrought by communizing the farms.

But as this was also the period of the Great Depression outside of Russia, it seems fair to suppose that Communism partly made good its claim of being able to excel Capitalism in the control of economic fluctuations. It is true that fluctuations would be less pronounced in Russia anyway, because it is still predominantly an agricultural country. Yet this argument cannot explain away the fact that in the capital-goods industries, where our sag was worst, Russia enjoyed her greatest progress. Central planning, and the spreading of profits and losses over society as a whole gave Russia a real advantage in this respect. At the same time, and for similar reasons, Russia had remarkably little unemployment. Although the standard of living was low, people who wanted to work could at least find jobs.

Under the second Plan, the standard of living was raised somewhat by putting more emphasis on the production of consumption goods. In other words, advantage was taken of the additional capital secured by the first plan. The general object of the second Plan was that of more than doubling production. Electrical output was to be more than trebled

by 1937, and the production of automobiles was to increase nine times. Unfortunately, however, the chain of events which culminated in the War of 1939 induced the Union to build a huge war machine, and the armament program proved to be such a hungry consumer that the general level of ordinary consumption did not rise much. There is no doubt that their desire to carry the planned economy into effect made the authorities especially reluctant to engage in a major war. The militant powers most feared, of course, were Japan on the east and Nazi Germany on the west. To secure the west, the Union signed a new nonaggression pact with Germany, thus precipitating Germany's attack on Poland in 1939. Other defensive measures consisted in the establishment of military bases in the Succession States, in taking over the eastern part of conquered Poland, in wresting strategically valuable territory from Finland, and in signing a nonaggression pact with Japan. Thus did the Union postpone war with Germany and improve her position for fighting the war when it came in 1941.

SUMMARY

In retrospect, the reasons for the coming of Bolshevism are anything but obscure. Like the established authorities of every real society known to history, the authorities of Romanov Russia had two related tasks. The first was to promote the common interests of all the people—the common interests in making Russia wealthy, powerful, glorious before the world, and so on. The second was to preserve an internal “balance of power”—to reconcile conflicting class interests in the sense of keeping the distribution of privileges in line with the distribution of actual power among different groups. The authorities fell down on both jobs. In the final crisis they demonstrated their incompetence and corruption so conclusively that they could not muster enough support to resist open attack. In the concluding chapter we shall see whether the same reasons accounted for the collapse of established systems in Italy and Germany.

PROBLEMS

1. Is it feasible to confine a study of “economic reform” to “economics” alone? Explain.
2. What are the outstanding economic and political features of the theory of Liberalism? What would be your own definition of Liberalism? What are its main weaknesses (a) according to Communists; (b) according to Fascists; (c) in your own opinion?
3. Describe the Marxian theory of revolution. What is meant by “the

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XXXIII

THINGS ENDING IN "ISM": *FASCISM AND NAZISM*

Democracy is a kingless regime infested by many kings who are sometimes more exclusive, more tyrannical and destructive than one, even if he be a tyrant.—BENITO MUSSOLINI

No one can doubt that in the future the world will witness tremendous battles for the existence of mankind; in the long run only the passion for self-preservation can win a lasting victory. When confronted with it, so-called humanitarianism, that product of a mixture of stupidity, cowardice, and superciliousness, will melt away like snow in the March sunshine.—ADOLF HITLER

THE TASK of interpreting socialistic and fascistic arrangements is simplified in so far as the two have not only similar origins but common characteristics as well. According to one interpretation, both are the products of class conflict, but Socialism puts the workers on top while Fascism gives the control to capitalists. In Russia, as we have seen, this interpretation is weak at both ends. The old order broke down quite as much because it failed to promote common interests as because it failed to resolve class conflict, and the new order gives little power to the workers as a whole. It remains to be seen whether the class-struggle interpretation has corresponding weaknesses when applied to Italian Fascism and German Nazism.

Italian Fascism

With the adoption of a more or less Liberal arrangement 1861, the function of lawmaking in Italy came to be performed by the King together with Parliament, which consisted of a Senate appointed by the King and a Chamber of Deputies elected on a narrow franchise. From that time until its overthrow in 1922, Italian democracy was badly undersupplied with an element which is indispensable to the success of any democracy. This element consists in common interests, interests which are recognized by all important elements of the population as taking precedence over the interests of particular classes or regions.

FORERUNNERS OF FASCISM

The country, which is poor in natural resources, had consisted for centuries of semifeudal principalities; and it was further split between industry in the north and agriculture in the south. Until about 1876, conservative Liberals were on top, the more progressive Liberals gaining ascendancy afterwards. But as time went on conflicting interests became more pronounced. The deputies represented local interests. They were also out of touch with the masses. Fraud and violence marred the elections. The Socialist party, which was formed in the early 1890's, did much to get the number of voters extended from three million to eight million; but it soon divided into moderate and radical wings. In 1910 the Nationalist party was formed for the purpose of pushing imperialism; and Italy took Tripoli and Cyrenaica away from Turkey after the War of 1911-12. By the time of the First World War it had become extremely difficult to get a majority together on any issue of consequence; and the Parliament, further vexed by a system of representing all parties proportionately to their votes, had become a low-grade debating and log-rolling society.

Prime Minister Salandra, a moderate Socialist, held that Italy would best serve her "sacred egoism" by staying out of the War. Mussolini, a radical Socialist, decided that the sacred ego would find more nourishment in participation on the winning side, which, he rightly judged, would be that of the Allies. For this heresy the Socialists removed him from the editorship of *Avanti*, the party organ, and from the party as well. As editor of his own paper, *Il Popolo d' Italia*, Mussolini then played a strong part in drawing Italy into the War, in which he fought with distinction. After the War the feeling became pretty general that Italy had been cheated by the "peace" treaties. The Socialists, using "I told you so" as their moral, began to vent their spite on anybody whom they identified closely with Italy's unfortunate participation in the conflict. Greatly underestimating the popular strength of patriotism, they went so far as to set on war veterans who appeared in public in uniform. In September, 1920, they even seized control of a few metal factories. Strikes, of which there were about 4,000 in 1919 and 1920, led to the most violent rioting. "Italy" had come to consist so largely of irreconcilable factions that its continued existence as a national entity stood in doubt.

COMING OF FASCISM

In these circumstances Mussolini proved his ability as a politician and organizer. He foresaw that interest in a strong Italy, united against dis-

order within, and united for Manifest Destiny without, could be turned into a popular passion. He developed into a formidable private army his *fascies* ("unions," or "fighting squads"), which were patterned after similar bands that he had organized to encourage Italian entry into the War. The "Fascists" who composed these bands were mainly war veterans. By a combination of internal discipline and patriotic ideals, the latter calling for the frequent application of clubs and castor oil to left-wingers, the Fascist groups were welded into the organization standing the best chance of restoring order and national self-respect to Italy.

Although no single party could muster a majority, the Fascists enlisted powerful support among the upper and middle classes, among young men, and among patriotic people in general. In October, 1922, the King decided to yield to the Fascist demand for the reins of government. The ceremony was preceded by theatricals well designed to popularize the change. The Fascists took possession of the city halls, railway stations, and the like, in a number of the large cities; and, on October 27 and 28, they staged the "March on Rome" from Civitavecchia. There was little opposition. The King's request that Mussolini form a cabinet and Mussolini's compliance with the request were mainly in the nature of a formality. The "revolution" was really an accomplished fact by this time, and the "dictatorship" followed it almost as a matter of course.

THE FASCIST PARTY

As the Communist party manages Russia, so does the Fascist party run Italy. At the head of the Fascist party is the Fascist Grand Council. The chief of this council is Mussolini, who is also Prime Minister, Foreign Minister, Defense Minister, and Minister of Corporations, in the government of Italy. The party maintains rigid discipline within and without. It trains young people for membership. Beginning with the age of eight, selected boys are schooled in the proper doctrines and practices, including the military arts. At fourteen there is a further selection for the Avanguardisti; and at eighteen all able members of this group may become Fascists. There are "auxiliaries" for girls. The liberties of party members, nonmembers, labor organizations, and so on, are restricted in much the same way as in Russia.

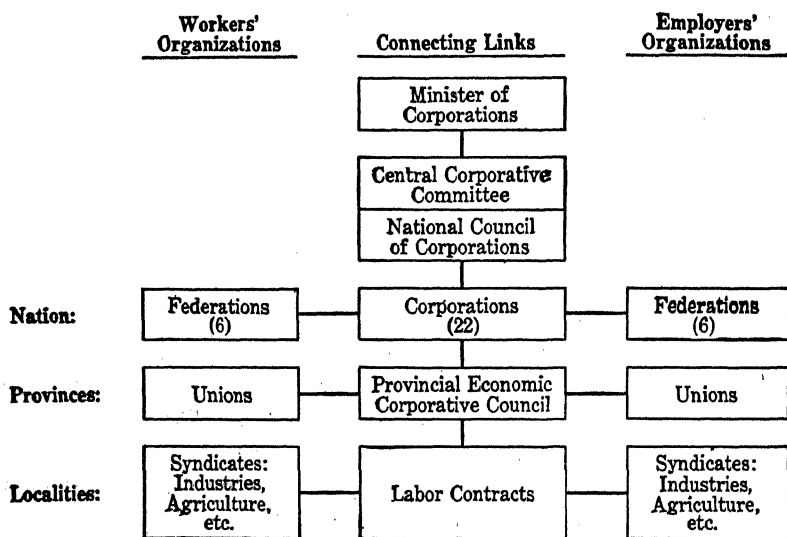
The sacrifices exacted in Russian for the sake of "the proletariat" are exacted in Italy for the sake of "the State." In both cases the individual must live not only for the present interests of "society" but also for the greater future strength of "society," that is, for the presumed benefit of a largely or wholly different set of people from the present one. In both

cases, too, the authorities claim that enforced sacrifices for future generations are good for the present generation.

THE "CORPORATIVE STATE"

Subject to Fascist control, Italy has a system of "functional representation." Remembering that the country is divided into ninety-two provinces, each containing numerous localities, we may describe this system with reference to the diagram which follows.

To illustrate the form of representation, begin with a given local activity, say shoe manufacture. On government approval, as few as 10 per cent of the workers may organize a "syndicate," or local industrial union, and employers hiring as few as 10 per cent of the shoe workers



may form an employers' syndicate. The two syndicates work together by means of labor contracts. Nonmembers, as well as members, are bound by these contracts, and must pay dues to support the syndicates. (Employers must secure new workers from State-operated labor exchanges, which give preference to Fascist applicants for jobs.) Besides entering into contracts with respect to wages, hours, and working conditions, the syndicates also take care of such matters as insurance and medical attention.

There are similar local organizations for other industries, for farming, for transport, for banking, and so on. In the case of both workers and employers the local syndicates covering any given type of economic

activity have their provincial unions. And the provincial unions in this field are supposed to have their national federation. For each province the functions of the workers' and employers' organizations are co-ordinated by a Provincial Economic Corporative Council. For the nation as a whole, this is done by *Corporations*, which are headed by the National Council of Corporations. And over the National Council of Corporations, which is run largely by its Central Corporative Committee, stands the Minister of Corporations.

In practice, this elaborate organization has resembled the American Army's former skeleton of reserve officers who did not have soldiers to lead. That is to say, of the twenty-two national corporations, only six have actually had national federations to incorporate. The six active corporations have been those relating to industry, agriculture, commerce, banking, transport, and professions and arts. However, the last-named corporation has connected, not workers' and employers' federations, but federations of professional people and artists who typically work for themselves.

ECONOMIC POLICIES

On the economic side the "corporative State," although Fascists consider it well adapted to economic planning, is used mainly for two purposes. The first is to prescribe and enforce general rules for the operation of a system of private initiative and private property. The second is to interfere with the operation of this system wherever, whenever, and however the authorities think it to the advantage of the State to do so.

The general rules of distribution resemble our own in the respect that the marginal products of productive agents are supposed to go to the private owners of the agents. The result, as here, is a very uneven distribution, property incomes running much higher than labor incomes. But the Italian system further resembles ours in the respect that an expensive armament program serves to reduce inequality more or less. How far the equalization goes depends, of course, on the progressiveness of the taxes which raise the funds to pay for the armament. The Russians do this a little differently. The funds which they need for "preparedness" they never pretend to give to the citizens in the first place. States like Italy and the United States first let the funds appear in the balance sheets of individuals and then take it away by means of taxes on inheritances, incomes, and so on. But the general results of the two methods are much the same.

INDUSTRIAL PEACE

The Italian system differs from ours in the respect that the State will not tolerate the interruption of production by strikes and lockouts. Workers and employers who dispute over the interpretation of a labor contract, or over proposed changes in the terms, are first given a chance to conciliate their differences. The Minister of Corporations or some appointee of his may serve as conciliator between opposing syndicates. If this does not work the case is settled by compulsory arbitration. The arbitrator is one of the country's numerous Labor Courts. Each court consists of three judges and two experts—one expert on labor and the other on problems of production. It may be, as opponents of Fascism contend, that conciliators are partial to the interests of employers, although cases are cited to the contrary.¹ If so, it still does not follow that the workers are worse off than they would be if direct action were permitted. The conditions of 1919 and 1920 suggest how far unbridled conflict between labor and capital is capable of going in Italy.

ECONOMIC NATIONALISM

The Italian Fascists do not "plan" production comprehensively, as the Russian Communists do. Comparatively few industries—notably the railways, postal service, telegraph and telephone service, salt and tobacco production, and part of ocean shipping—are owned and operated by the State. For the rest, the authorities leave the control of production to private initiative except where they think they can increase the national strength by interfering. In interpreting national strength, they put much stress on security and prestige. Thus they have sought especially to increase Italy's military power and to decrease her dependence on outside sources of essential and strategic commodities. In pursuit of these objectives they have suffered one noteworthy disappointment.² Their effort to supplement private initiative in the production of Italians has failed. In

¹ On page 97 of the symposium, *Bolshevism, Fascism, and Capitalism* (1932), Luigi Villari refers to such a case. In general, unfortunately, writers are so eager to "prove something" either for or against Fascism (usually against it, in the United States) that the cases cited are likely to be both "selected" and "interpreted."

² The unsuccessful effort to stabilize the monetary unit, the *lira*, might be added. After 1927 the authorities tried to keep the lira on the gold standard at a ratio of about ninety-two lire to the pound sterling. Since, in fact, the lira had depreciated so much that this amounted to stabilizing it at too high a level in terms of outside currencies, Italian exports were discouraged and gold left the country. The authorities tried to correct the situation by forcing down prices and wages. But the Ethiopian War of 1935-36 aggravated the drain of gold, and the withdrawal of France from the gold standard put Italy at a further disadvantage in competing in the world export market. In 1936, accordingly, Italy gave up the stabilization plan and slipped off the gold standard. For the effects of artificially high or low currency valuations on foreign trade, see Chapters XXX and XXXI.

spite of patriotic propaganda, heavy bachelor taxes, bounties for large families, and the like, the rate of population growth has been declining.

In other respects State interference has made some progress toward Fascist objectives, although at great cost in terms of personal liberty and ordinary goods and services. A measure of economic self-sufficiency has been gained. For example, Italy now produces about enough wheat for her own consumption. However, the wheat costs the Italians dearly. On the eve of the War of 1939 the *ad valorem* duty on imported wheat was 150 per cent, so that a bushel of American wheat would have cost, without counting shipping expenses, two and one-half times as much in Italy as in the United States. The military machine was much enlarged and improved, and patriotic feelings about "historic wrongs" and "manifest destiny" were greatly stimulated. For a time the extension of national prestige proved a reasonably adequate compensation for the shortening of the national purse. This was when Italy was conquering Ethiopia, helping General Franco in the Spanish Civil War, and overrunning Albania. In 1940 and 1941, on the other hand, military reverses at the hands of Greece, the loss of the East African empire to the British, and the forfeiture of even the control over Italy itself to Nazi Germany, was enough to recall Bismarck's description of Italy as a country which combined an enormous appetite with very bad teeth.

German Nazism

At the time of the First World War the German Empire had been an accomplished fact for only a little more than forty years, or since the victory of Prussia over France in the war of 1870-71. In this period German unity and patriotism were crystallized around a nationalistic philosophy which went back to earlier times and which embodied the following general ideas.

FORERUNNERS OF NAZISM

The ideal nation is economically self-sufficient. In this ideal nation the people have their being in the State, and no sacrifice, not even life itself, is too great for the individual to make for the continued existence and increased glory of the State. The ideal nation is also a nation of the ideal race; and this race is the Teutonic, or "Aryan," race. The mixture of Teutons with other races can only result in racial degeneration. As the Teutons, according to German romantic writers, had demonstrated their superiority over other races as early as medieval days, Germany is morally pledged to the mission of making Teutonic culture predominant not only in Germany but even throughout the world. Finally, the cause

of the higher culture justifies and demands the forcible conquest of the inferior races by the ideal race.

Perhaps this sort of philosophy, although apparent enough in the patriotism and imperialism of other nations, made the Germans abnormally vain and ambitious, as the Allied propagandists found it convenient to argue during the War. At any rate it rendered their defeat in the War especially bitter and bewildering to them. And yet if they flirted, in the dark 1920's, with the enervating idea that things Teutonic might not be so superior as they had supposed, events were soon to prove that the *furor teutonicus* still smoldered with intense heat.

In 1919, when the German Republic was launched in Weimar, the National Socialist party began in Munich. It consisted originally of six men who met in a back room of a *café*. Adolf Hitler became its seventh member and its leading figure. From the first it was dominated by army men, who subscribed in general to the ideas outlined above, and who became more and more hostile to the Republic. Aided by the punitive "peace" treaty, by Hitler's incessant speechmaking, and by the French and Belgian invasion of the Ruhr, the membership rose to about 5,000 in November, 1923. At this time occurred the so-called "Beer-Hall *Putsch*," or the unsuccessful attempt of Hitler and Ludendorff to start in Munich a revolution which was supposed to overthrow the Republic and put the extreme nationalists in power. Sentenced to five years' imprisonment for treason, Hitler was ridiculed as a sort of comic-opera character. Indeed, he was so grossly underrated that he was released after serving one year in jail. It was during this year that he wrote much of the National Socialist ("Nazi") bible, *Mein Kampf*. Upon his release he at once reorganized the Nazi party and became leader of the nationalists in general.

From 1924 to 1928, thanks to heavy foreign loans, Germany's internal condition and her relations with foreign powers were improving, and for that reason the Nazi cause languished. Even in 1929 the Nazi and Nationalist parties together got less than 6,000,000 votes in the elections to the German lower house, the Reichstag. A year after this long lull, however, the storm began.

COMING OF NAZISM

In September, 1930, the Nazis alone polled more than 6,000,000 votes, and their representation in the Reichstag rose to 107, as contrasted with 12 in 1928. Thereafter, Nazi strength and popular opposition to the policies of the Republic grew apace. For two years acts of violence increased alarmingly, Communists, Nazis, and members of the Republican

Reichsbanner assaulting and killing one another in the streets. The pressure exerted by the Nazis, who demanded full power, made it impracticable for any other party or coalition of parties to carry on. In succession, ministries headed by Brüning, by von Papen, and by von Schleicher, failed to break the deadlock. In January, 1933, Hitler accepted the invitation of President Hindenburg to serve as Chancellor at the head of a new ministry. At the Reichstag election of the following March the Nazis rolled up seventeen million votes, or 44 per cent of the total. Combined with the Nationalists, who polled 8 per cent, they found themselves in full command of the government. By a combination of popular support and sheer force—their private army was a formidable organization, and they could now trust the regular army, the *Reichswehr*, not to oppose them seriously—the Nazis were soon able to establish a dictatorship similar to that of the Fascists in Italy.

SOURCES OF NAZI STRENGTH

The great growth of the Nazi vote came mainly from three groups: young people between the ages of about 20 and 30; the middle classes, especially small businessmen, together with many white-collar and farm workers; and people who, until hard times set in, had not taken the trouble to vote. The reasons why these groups turned their backs on the Republic may be summarized as two—internal disorder, and national humiliation before the world. The government, with numerous political parties locked in struggle, seemed to them incapable of solving the economic problems which, as the Great Depression tightened its grip, plunged them into progressively worse conditions. Dissatisfaction was intensified by the fact that monopolies, trade unions, highly organized professions, and a growing corps of civil servants, all trying to boost the prices of what they sold, created a set of “outs” who resented the privileged positions of the “ins.” Lacking confidence in democratic traditions in any case, they were emotionally predisposed to the Nazi thesis that the founders of the Republic were traitors who had stabbed them in the back by accepting the terms of the Versailles Treaty. Accustomed to the pomp of the Empire, they preferred the military display of the Nazis to the colorless procedure of the Republic. And the dramatic Nazi program promised to appease their hunger for order and honor.

The twenty-five points of the 1922 program, which was declared to be unalterable, promised a strong Germany. They promised unity within, national dignity without, and security and justice in both respects. As is true of party programs everywhere, certain specific promises were shelved

when the Nazi party came into power.³ If we forget what is gone, the program, further elaborated in *Mein Kampf*, was much like the prewar philosophy of German nationalism. Externally, it called for the abrogation of the 1919 treaties, and for territory enough to feed the German people and settle their surplus population. Concretely, this meant that the Nazis repudiated German war guilt, insisted on armament equality, and undertook to incorporate into the Reich certain Germans and territory—the former colonies, the Saar, Austria, the Polish “corridor,” the Sudeten Germans of Czecho-Slovakia, and perhaps some additional territory and Germans to the south and east. Of especial interest to the United States, too, was the fact that *Mein Kampf* and its adherents had not overlooked Latin America. Later, of course, there evolved from this program of uncompromising nationalism the more dangerous policy of militant imperialism and conquest which occasioned the War of 1939.

Internally, the program called for an extremely powerful central State in which only people of German (Teutonic or “Aryan”) blood should be citizens. There would be only one real authority, the State. The press would be a strictly German press. There would be only one political party, which would be composed only of Germanic people. To the State the people would owe work and unswerving loyalty. To them it would pledge far-reaching measures for social security and welfare. If necessary, in order to care for Germans, the immigration of non-Germans would be stopped, and non-Germans who entered Germany after August 2, 1914, would be ousted. For this the majority traded the “liberty,” as they saw it, to be weak and scorned.

GOVERNMENT

In the sense that one political party is in full control, Germany is governed as are Russia and Italy. Headed by Hitler, the Nazi party has both a functional and a territorial organization. In the former respect it has a network of cells among factory workers, women's groups, youths, civil servants, the police, professional people, farmers, bankers—an organization reaching into every aspect of German life. In the territorial respect it divides the Reich into sections, including conquered areas, each commanded by a sectional party leader. Working hand in hand with the party organization is the governmental organization of the Reich. Led

³ For example, little is now heard of the former Nazi demand to abolish the private receipt of interest, to expropriate land without compensation for common purposes, to “distribute” the profits of large industries, to communalize large department stores, to abolish the mercenary army. Point XXIV of the program demanded freedom for religious sects, but only “in so far as they do not endanger the State or work against the customs and morals of the German race”; and it declared that the party “fights the spirit of Jewish materialism in us and outside us.”

by Reichsführer Hitler is a cabinet of officials who serve as leaders of the armed party guard (*Schutzstaffel*), treasury, political organization, agriculture, legal department, foreign policy, military affairs, the press, propaganda, youth, "and everything." As in Russia and Italy, the youth are educated in the approved doctrine and its practice. Military prowess and the suppression of nonconformists are strongly stressed. In action, this party-government has been distinguished by racial discrimination within Germany and by a vigorous foreign policy without.

RACE

Omitting the unusually strenuous oppression of populations in areas conquered by Germany in the War of 1939, especially in Poland, the discrimination directed against some 2,500,000 Germans listed as "non-Germans," or "non-Aryans," has fallen with particular severity on about 700,000 German Jews. Jews were barred as lawyers, doctors, dentists, and teachers in the Civil Service, while official and unofficial boycotts interrupted the private practice of their professions. Boycotts were applied also to Jewish shops and business firms in general. A sharp limitation was imposed on the number and privileges of Jewish students. Jews were politically suspect and socially outcast, and the authorities winked at their terrorization. Jews, if they could get out of the country, and find a place to go, could not take their wealth along. Their property, including even pensions and insurance claims, was largely confiscated. The underlying reasons for this discrimination seem to have been mainly three. First, frustrated human beings invariably seek scapegoats on whom to blame their troubles, and in times of abnormally great trouble, such as Germany experienced after the World War, the search is especially diligent. Second, a national scapegoat, when found within the nation, always consists of a minority which is too weak to fight back and which has a group culture differing noticeably from that of the majority. Third, the romantic exaggeration of "Aryan" virtues had long been employed to swell the prestige and self-esteem of militant *Junkers* whose "racial purity" was at least open to question. From these general sources, apparently, have sprung the unsportsmanlike discrimination, and the strained and inconsistent charges, against the Jews.⁴

⁴ See, for example, the charges that the Jews were "slackers" in the War, that they enriched themselves by usury, that they engineered the postwar inflation and profited heavily by it, and that they are "Marxists." The war record of the Jews was substantially the same as that of Germans in general. The idea that the "German" 99 per cent of the population was losing out to the Jewish 1 per cent is inconsistent with the theory of "Aryan" superiority. It is inconsistent also with the charge of "Marxism." People doing so well under the existing arrangement would hardly want a radical change. In fact, the per capita wealth of German Jews was about equal to the per capita wealth of Germany.

FOREIGN POLICY

The foreign policy of Nazi Germany is remarkably consistent with the party's original platform and *Mein Kampf*. With respect to treaty "obligations," Germany follows a principle which is legally recognized within the leading countries which upbraid her for following it: the principle, namely, that promises made under duress are not binding. So far, her defiance has been expressed in rearmament, withdrawal from the League of Nations, military occupation of the "demilitarized" zone in the Rhineland, formal repudiation of the World War treaties, alliance with Italy and Japan, annexation of Austria, the annexation of the Sudeten area of Czecho-Slovakia, a region containing three and one-half million German-speaking people, the dismemberment of even the remainder of Czecho-Slovakia, and the attack on Poland—the act which finally precipitated the Second World War.

ECONOMIC NATIONALISM

Like the Italian Fascists, the German Nazis "plan" economic activities mainly in the sense of interfering with private initiative at specific points in the national interest. In general, the national interest, as they see it, calls for a strong Germany. On the military side, as we now know only too well, it has called for a war machine capable of overrunning a dozen nations and threatening the political independence and territorial integrity of still others. On the economic side, the national interest calls for an increasing degree of self-sufficiency, even if this has to be attained by conquest.

In part, self-sufficiency has been forced on Germany. Deprived of her colonies by the War, she became more dependent on outside countries for foodstuffs and raw materials. She had also to make reparation payments. As her exports did not nearly suffice to cover all outside payments, her citizens borrowed heavily abroad. When the Great Depression put an end to this borrowing, the authorities used various measures to balance outgoing with incoming payments. They rationed out foreign exchange so as to prevent the purchase of imports for which no corresponding exports were in sight. Reparation payments, which they had been making out of borrowed funds, they cut off altogether. They "blocked" foreign exchange in order to stop the exportation of funds in payment of interest and principal on the private debts of Germans to foreigners. That is, German debtors made payments in marks to German banks on behalf of foreign creditors, but the creditors had to spend the funds in Germany instead of exchanging them for the currencies of their

own countries. In short, a dearth of exports led to the restriction of imports and to the adoption of extraordinary measures for protecting the gold supply.

But in part, and perhaps in the main, self-sufficiency has been a voluntary policy. Although Goering's second four-year plan called for the economic and political penetration of southeast Europe, and for some penetration of Latin America as well, the main outlines of the economic policy, prior to the War of 1939, may be sketched as follows. In order to have a free hand in the game of power politics, the Nazis sought to decrease the dependence of the Reich on foreign supplies of foodstuffs and raw materials. Thus imports were restricted for the purpose of building up home sources of supply. The government undertook the reclamation of land, encouraged a "back to the farm" movement, subsidized the production of natural wool and vegetable oils, and offered special inducement for the development of such synthetic products as artificial rubber, cloth made from wood, petroleum distilled from coal, and nitrate based on nitrogen extracted from the air. The high price of this defiance to the principle of comparative costs was paid for power and prestige. During the war, the most spectacular feature of the economic policy has been the ruthless exploitation of the productive resources, including the people, of conquered areas.

INDUSTRY AND LABOR

Industry and labor, although organized somewhat differently, are actually controlled much as in Italy. The large industries, most of which had been organized into trusts before the Nazis came into power, are classified functionally into a few national divisions. They are under close central control, which goes down the line from the national government to divisions, trusts, and plants. The industrial worker is under the immediate control of his employer, the plant "leader." The government undertakes to see that the employer does not abuse his position. That is, it undertakes to hold him to the rules which it lays down with respect to wages, hours, working conditions, social security and welfare, dismissal, and the courteous treatment of workers. It maintains a system of Labor Trustees and Courts of Honor extending throughout the country. A worker who thinks himself wronged may appeal to a plant Trustee, who, if impressed, may take the case before a Court. The employer may be punished severely if found guilty of exploiting the worker or of insulting him by abusive language or arbitrary discharge. Workers, too, may be brought before Courts.

Of course the apparatus of labor regulation is controlled by Nazis.

Nazi Shop Councils "advise" employers in the appointment of Trustees. Nazi judges preside over the Courts, each Court consisting of a judge, an employer from the plant where a case has arisen, and a third person selected by the judge and the employer in question. It seems to the opponents of the Nazis that this arrangement does not give workers fair representation. But the Nazis, as they recognize only a "totalitarian" State, a State without separate "classes," deny that any question of class justice can arise. They insist that the only question is one of loyal and effective service in the national interest. Since the national interest demands the efficient operation of industry, they scorn the idea that they would stoop to partiality tending to lower the morale of any producer, be he worker or employer. As evidence of their main objective, they point to a marked reduction of unemployment under their regime.⁵

Government labor exchanges place workers according to their special training, and according to the kinds and amounts of products required in the national interest. Special protection has been given to older workers, and an extensive system of social insurance is maintained. In order to weigh the conflicting arguments between the Nazis and their critics, the reader must try to judge whether it was class interests or common interests which played the more important part in bringing about the Nazi revolution.

Things Ending in "Isms"

In the whole study of human society it would be difficult to find anything more misleading than "isms." Perhaps the most important lesson to be learned about the problem of "revolutionary" change is that there is little about it which is what it seems.

MATERIAL INTERESTS

"Economic materialism" is not what it seems. The material interests involved in social revolution, instead of being mainly class interests in dividing up a product, are at least as much common interests in carrying on the work of production. To judge by actual history, distributive injustice can continue almost with impunity *provided* production does not get out of gear. When production does break down, however, the presence of an oppressed class increases the probability of violent revolution.

⁵ Official estimates of unemployment have omitted people in the bad graces of the authorities. Allowance should be made, too, for the fact that rearmament and public works created many jobs, and for the further fact that unemployment was relieved by worldwide recovery from the Great Depression. This refers to the peacetime situation, if the situation of Germany throughout the 1930's can be called one of peace. During wartime, of course, unemployment is not likely to be a major problem in any belligerent nation.

In so far as material conditions are responsible for radical changes of social organization, it is largely the failure of production which puts a regime in imminent danger. Revolutions stand the best chance of securing popular support when they seem the only means of rescuing production from class struggle or other forms of paralysis.

COMMON INTERESTS

Common interests are not what they seem. They are only in part "material." As Italy and Germany show us, governments may be overthrown partly for the reason that they are associated with national humiliation. Nationalism is not mainly material. In the matter of foreign policy, it is not essentially a device for raising a people's standard of consumption. In practice, consumption is sacrificed for power and prestige, one people suffering material loss cheerfully in order to make rivals suffer still more. Although it is common to speak slightly of the "psychic income," the "spiritual dividends," and the like, which people receive as members of a nation, the fact remains that such "goods and services" have long been real enough to be purchased at high prices.

CLASS INTERESTS

Class interests are not what they seem. They, too, are only in part material. A class, like a nation, is largely a matter of the way certain people come to feel. Like the people of a nation, the people of a class seek prestige in the form of dominance over rivals, and they habitually make heavy material sacrifices in order to achieve it.

CLASSES

Classes are not what they seem. An example is seen in the "working class," or "proletariat," which is so prominent in Communist doctrine. In reality, workers are people who work; and if there is some special virtue in workers, it is reasonable to suppose that this virtue is possessed by all those who work. But not according to Communist doctrine. To the Communist, mere work apparently does not make you a worker unless you work for hire, and only hired workers seem to possess just the right qualifications for reforming society. Another illustration is provided by the class which actually triumphs in a revolution. It is not, as left-wing theory makes it seem, the downtrodden class. Mere oppression does not cause its victims to overthrow their oppressors. Our age-old oppression of cows and horses has not led to the bovine or equine control of animal life, nor was it the oppressed Negroes who ended the institution of Negro slavery in the United States. A feudal autocracy in Russia succeeded in oppressing the masses for three centuries. Until some other

class becomes powerful enough to unseat the "ruling," or "privileged," class, there is no class revolution. And the victors in the revolution consist of the class or coalition which has the power not only to overthrow the old order but also to run the new.

DICTATORS

"Dictators" are not what they seem. The one-man government is a gross exaggeration. Only within comparatively modest limits can any one man "run" a country, or, for that matter, any other large organization. These limits are set by two general factors.

The first factor consists of the established and complicated *routine* of operations. Thus the supposed "boss" of a business concern cannot discharge at will his more important subordinates, either executives or skilled laborers. Even if we ignore the fact that these men usually have a "following" among the employees, there is still the fact that they are hard to replace, and that it would be long before their successors gained an equal mastery of the necessary routine. In the same way, our Secretary of State is circumscribed in determining America's foreign policy. He is obligated to adjust his actions to the habitual views and practices of a permanent staff of subordinates who know the routine much better than he does. And in any large organization change is rendered the more difficult by the irritating fact that subordinates have a "vested interest" in avoiding changes which would cause them extra work and trouble.

The second limiting factor is *public opinion*, to which the policies of the "leader" must be fashioned. It is a delusion to suppose that a leader or ruling class can shape this opinion at will. It is true that these people have more influence than anybody else has, that their influence is increased by control over the channels of communication, and that their moral responsibility is correspondingly great. Nevertheless they are obliged to work with the raw material, the "folkways," which lie at their disposal, and this material is notoriously resistant to change. This is why it is one of the first principles of propaganda that the people must be told what they want to hear. The idealist may wage an uphill fight to show that the differences displayed by other nations or social groups are small, or that they are virtues. The more practical propagandist fights downhill. Dictators can do what they please only as long as they please to do what they can.

REVOLUTION

A revolution is not what it seems. Instead of changing everything suddenly, it only changes some things, and even in this respect it is, the

culmination of a long process of evolution. What happens is that underlying changes in the ways of life—in commerce, industry, income, education, foreign affairs, religion, literature—gradually change the real balance of power among different groups. They slowly redistribute not merely economic power, but the ability to run the social order as a whole—to adapt its controls to changed conditions, including changed folkways. Sooner or later the rules of the game are brought into line with current realities, and the political and social positions of different groups are changed correspondingly. The realignment is called a “revolution.” The real revolution consists of the slower changes which at length occasion the realignment. The realignment typically occurs during some crisis which spectacularly demonstrates the need for it. And violence, if there is any, is typically the result of a reactionary effort to prevent the realignment.

THE NEW ORDER

The “new” order is not what it seems. A great part of the business of life goes on as before. There are about the same products, work, tools, channels of distribution. To illustrate—by “intellectuals,” Italy’s and Germany’s new isms are represented as coercion on an altogether unprecedented scale. “The people” are supposed to have become the victims of an enormous system of enforced conformity which deprives them of the opportunity to develop their personalities by thinking, making decisions, expressing themselves. Of course there is something in this view—quite enough, in fact, to justify our being hesitant about adopting any similar system. And yet it is seen to exaggerate the moment one inquires how many of the people in these countries ever possessed such liberties to any great degree. It is doubtful that the majority of the people are aware of any sweeping change in their daily lives. For instance, the man who now goes to the steel mill to punch the clock for The Party, and do what he is told, formerly had to punch the clock for The Company, and do what he was told. The funeral of “liberty” recalls Washington Irving’s description of the funeral of the Great Man:

It is the historian, the biographer, and the poet, who have the whole burden of grief to sustain,—who—kind souls!—like the undertakers of England, act the part of chief mourners,—who inflate a nation with sighs it never heaved, and deluge it with tears it never dreamt of shedding.

In conclusion, the “arguments” about isms are not what they seem. Knute Rockne’s observation that “most men, when they think they are thinking, are merely rearranging their prejudices,” seems to apply here.

Many a pleader for this or that ism is less concerned with solving any concrete problem than with having "his crowd" in power. Many a man who hates Socialism would never dream of turning, say, the coinage over to private enterprise; and many another who never studied the weaknesses of our commercial banking system is quite sure that Socialism would cure them. Thus the positions taken on isms amount frequently to "thinking backwards." Faced with real problems, we ought to fashion our solutions to the realities of the problems, not worrying too much about the name which may later be borne by the program which careful deliberation indicates to be the most workable. Once badly bitten by an ism, such as Communism or Capitalism, we tend to follow the opposite course. Then we try to make a program fit a name which is selected in advance. We first inquire, "Is this Communism?" or, "Is this Capitalism?"; and on the answer to the question we base our opinion of any given proposal. As realities have a brutal way of prevailing over words in the long run, it is largely the bad mental habit of trying to make realities fit words which makes actual events seem so bewildering.

PROBLEMS

1. Discuss this statement: "The Fascist and Nazi regimes are dictatorships established essentially for the purpose of protecting the economic interests of employers against the economic interests of employees."
2. Compare Liberalism, Communism, and Fascism with respect to leading similarities and leading differences. Taking the United States, the Soviet Union, and Italy, respectively, as your examples of these isms, explain why you do or do not believe that the differences are extreme.
3. Are the Fascists and Nazis necessarily inconsistent in seeking faster population growth and also demanding population outlets? Explain. To what do you attribute their failure to increase the rate of population growth?
4. Explain why the Bolsheviks, Fascists, and Nazis should all seek an increasing degree of economic self-sufficiency. Is this policy necessarily "un-economical"? Discuss carefully.
5. Describe the Fascist and Nazi controls over industry and labor. Do the controls amount to "economic planning"? Defend your answer.
6. Do you expect the Bolshevik, Fascist, and Nazi regimes to last long? Explain.
7. Compare the Soviet Union, Italy, and the United States with respect to the personal distribution of national income.

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XXXIV

WAR POWER: *REVIEW AND PREVIEW*

Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived, and so dedicated, can long endure.—LINCOLN'S GETTYSBURG ADDRESS

Introduction

FOR MORE than a century and a half economists have studied the general principles of national and international peacetime economy. Today, however, the world as a whole is engaged in a great civil war. Whatever may seem to hang in the balance as far as any particular Axis nation or Allied nation is concerned, we in the United States are testing whether our own nation and similar nations, as we understand them, can long endure. We are reshaping our whole economy to this main end. On the spiritual side, we rely on our conception of this end to sustain us. The object of the present discussion is to assay our chances in, so far as these are determined by economic considerations. Here we look to the economics of war power. More than once in history good men have had to yield to the superior material and machines of men no better than themselves. Thus a "backward people" may be realistically described as a people whose technology is inferior to that of another people which is bent on conquering it. Our immediate task is not to be a backward people.

WAR POTENTIAL

Potentially the war power of the Allies is overwhelmingly greater than that of the Axis. We have well over twice their coal, their iron, and their equipment for mining, farming, and manufacturing. We have almost three times their population, at least three times their wheat, a dozen times their area in square miles, and more than twenty-five times their petroleum. Taken alone, our own country is in a most impressive position. We possess two-fifths or more of the world's technical equip-

ment for manufacture, mining, and agriculture. No other nation enjoys self-sufficiency or an exportable surplus in so many of the long list of materials which are vital to war as well as peace. To no other nation are so few materials "strategic," in the sense that they are not only essential to war power but that they must also be obtained wholly or in important proportions from sources outside the national control. In this respect, moreover, it will be seen from a brief review of the uses and sources of our main strategic materials that our comparative deficiencies are by no means incurable.

Antimony is used in bearing metals, storage batteries, explosive shells, lead shrapnel, rifle cartridges and artillery cartridges. But we now secure most of our supply from Mexico and Bolivia.

Ferrochromium is used for chrome steel alloys in armor-plate and projectiles. In the past we have imported most of our supply from Cuba, Rhodesia, South Africa, Turkey, Greece, British India, the Philippines, and New Caledonia. While the war has cut off some of these sources, and may cut off more, promising reserves have been found by our Bureau of Mines in our western states.

Industrial diamonds are used in drawing fine wire for airplanes and in cutting and shaping alloy steels. In so far as our imports from Africa, our main source, are cut off, we must rely on government stock piles and on our comparatively large private stocks.

Manganese is used to purify steel and to make steel alloys. Although Russia is the largest single producer, practicable processes for the treatment of our abundant low-grade ores have been developed, and we can secure a much larger proportion of our supply than formerly from other parts of the Western Hemisphere.

Mercury is used to detonate explosives. Spain and Italy are the main producers, but most of our domestic needs probably can be met by mines in our western states and in Mexico.

Mica sheets and splittings are used extensively in electrical equipment. Here we must rely mainly on British India. Yet this source of supply is at least as accessible to us as it is to our enemies.

Nickel, an alloying element for steel, is put to many military uses. However, it is easily obtainable in Canada, which produces about 85 per cent of the world output.

Quartz crystals are of different types. One type is used for electrical equipment, another for optical instruments. The main source of supply is Brazil.

Our main sources of *rubber* and *tin* are likely to be cut off, at least partially and for a time, by Japan. However, our government stock piles

may last for a year or two when ordinary consumption is severely curtailed. Further, our facilities for the production of artificial rubber can be extended rapidly, and our supply of tin will be increased considerably by smelters built or building for the treatment of Bolivian ore.

Among our "critical materials," that is, materials which confront us with a distinctly less serious procurement problem than do our "strategic materials," are aluminum, long-fibered asbestos, graphite, iodine, optical glass, and vanadium.

To repeat, our potential war power is undoubtedly enormous. From it we can forge the greatest war machine any nation ever produced and can bring this machine to bear on the weak spots of the most dangerous enemy our way of life has ever known. Nevertheless, we must not permit this fact to delude us concerning the urgency and the size of the task ahead.

THE SIZE OF THE TASK

War potential is not dynamic war power. The former must be converted into the latter. Thus, in 1942 and 1943, the United States must undertake to produce, among other things, 18,000,000 tons of cargo ships, 120,000 military tanks, and 185,000 warplanes. Despite the inferiority of their potential, our enemies started with much the greater actual fighting power. This fact enabled them not only to overrun several countries in rapid order but also to increase their war potential by conquest, and, most serious of all, to take from the Allies resources which they added to their own stock.

It is true that with the repulse of the Nazi air force over England in 1941, and with the enlistment of first the Soviet Union and then the United States on the side of the Allies in 1941, the stemming of this onslaught has ceased to be a fading vision. Yet it is hardly reasonable to count on overthrowing the Axis without waging a war of exhaustion. In the First World War, although the leading belligerents used about half of their limited productive power for war, it took more than four years to subdue Germany; and it would be criminal negligence on our part to work on the assumption that Germany is not in a more favorable position to wage a prolonged war now than she was then. Whatever hope we may entertain that some unseen but fatal weakness of strategic material or morale will cause the early collapse of our main adversary, we must proceed on the supposition that the struggle will continue for several years even if we throw half our total resources into it, and that any earlier termination depends on our making a still greater effort. The British were already giving half their slender resources to Mars when we

entered the war. This was the real meaning of the fact that they were spending at the rate of about two million dollars an hour, every twenty-four hours of the day, for the prosecution of the war.

THE NATURE OF THE PROBLEM

We have to inquire, then, how our nation can best liberate half or more of its resources from their normal uses, and how it can best transfer these resources to the war effort. Between these two tasks there is no conspicuous time order. In practice we must be engaged in both at once, and it is further true that a method of transferring resources is also a means of liberating resources. In logical order, however, the process of liberation comes first. That part of the general problem which relates to war price control and war finance has been considered in Chapters XVII and XXIX, and it will be reconsidered only briefly here.

A nation may release productive power, for transfer into war uses, in the following four general ways. Of these, however, only the first three are available if *all* nations are at war. First, it may increase the productivity of the resources set aside for the production of ordinary commodities. In so far as it does this, it secures a given output of ordinary commodities with less resources than before, thus making certain resources available for war use. Second, it may impair the real capital devoted to producing ordinary commodities. That is, it may free for war industries certain capital which it would normally use to maintain and extend the capital and equipment of its peace industries. In so far, however, as the makeshift policy of superficial repairs to this equipment fails to maintain output, the impairment of capital causes a net reduction of ordinary consumption. Third, the nation may curtail ordinary consumption, thus releasing for war certain resources which otherwise would have been used to produce ordinary commodities. Fourth, it may "borrow" foreign resources, that is, induce the people of other nations to put some of their resources at its disposal. But it is only from the point of view of the borrowing nation that this method is distinct from the first three. What the method does is impose on the lending foreigners the task of releasing resources by increasing productivity, impairing capital, and curtailing consumption.

The government of a nation may transfer liberated resources to its war effort in either of the following general ways. On the one hand, it may undertake to use the normal mechanism of prices and rates of return, offering for the goods which it wants prices which will induce private enterprise to produce these goods in the required amounts. On the

other hand, it may compel producers to turn out these goods in the required quantities.

These are essentially the ways in which America can furnish resources for the construction and use of a war machine. In the sort of war which apparently we must wage, the really fundamental question is this: As compared with our adversaries, how far can we go without curbing ordinary consumption so much that our loss of physical and mental efficiency will detract from our war effort? In order to formulate a reasonable answer, we must examine the different methods of liberating and transferring resources.

Increasing Productivity

Without doubt the productivity of our economic resources is much lower than it might be. Estimates of the total "waste" have run as high as fifty per cent. Yet the present question is not how much waste might conceivably be eliminated, but how much it is reasonable to expect that we shall be able to eliminate for the specific reason that we are at war. Here we shall consider three roughly distinguishable kinds of waste.

WASTES WITHIN INDUSTRIES

First, our being at war should make it easier to increase the productivity of certain resources which, although they are employed and are not badly distributed among different industries, work wastefully within the industries where they are used. To illustrate, during the first World War our manufacturing costs were reduced by standardization—by decreasing the number of styles, models, and "distinctions without a difference."¹ (Similarly, our Office of Production Management pointed out, in the early summer of 1941, that many more blankets could be manufactured for a given outlay if the number of colors were reduced from twenty-seven to seven.) Selling costs were reduced by limiting outlays on advertising and by requiring salesmen to carry fewer sample trunks. Delivery costs were lowered by the common use of a single delivery service by a number of stores. People submit to such economies more readily in wartime than they do in peacetime. There is also a heightened incentive to work. Partisan interests in bigger shares of the national output largely give way to the common interest in a bigger national output. Thus, we may reasonably expect more effective co-operation between employers and laborers than we had before our formal declarations of war.

¹ For details, see G. B. Clarkson, *Industrial America in the World War*, 1923, pp. 216-41.

FACULTY ALLOCATION OF RESOURCES

Second, our being at war may improve in some ways the allocation of the productive power which is engaged in producing ordinary commodities. This is likely to be the case where maximum-price control is imposed, or imposed more effectively than before, on monopolies which not only restrict output but also exclude productive power from their fields. As we saw in Chapter XVII, the limitation of the price tends to make the output of maximum monopoly profit a larger output than it otherwise would be. Thus the tendency is to draw back into the monopolized field certain productive power which should have been there all along.

UNEMPLOYED RESOURCES

Third, our being at war facilitates the employment of certain resources which in peacetime are idle as far as strictly "economic" production is concerned. For example, in England and Wales, during the first World War and also during this war, a great deal of grassland in such forms as commons and private grounds was turned to the production of foodstuffs. In wartime, much of the former "leisure" of persons may be converted to "work." But the advisability of the conversion depends, of course, upon the type of the leisure.

It is doubtful that much is to be gained by any marked invasion of the leisure of the ordinary workingman. Assuming a typical working week of forty-eight hours, composed of six eight-hour days (an estimate which is revised below), the working week can be extended to the advantage of weekly output only in occupations which do not demand intense physical or nervous effort. (Thus, studies made by our Department of Labor indicated that weekly output per worker was increased in munitions plants by reducing the hours from 66 to 46, and that the daily output of riveters was far more than doubled by decreasing the time actually spent at work from ten hours to five.) To take another case, pushing women and children from the home into industry generally amounts, not to an increase of economic productivity, but to a shift from one type of "economic" production to another. That is, resources so liberated for war are liberated, not by employing resources which were formerly idle, but by cutting down the production and consumption of a "commodity"—home life and training—which is extremely valuable to a nation in the long run.

There are, however, other types of leisure which can well be reduced. Here we find the resources rendered idle by partial monopolies which

succeed in curtailing output but fail to exclude the entry of productive power into their fields as long as their rates of return are above the general level.² Similar to this is the case of crop-controlled American agriculture: the resources which are prevented from producing crops are left largely in idleness. Most impressive of all, if we date our present war effort from the summer of 1940, we find perhaps a fifth of our productive capacity idle because of a chronic depression which disappears rapidly in wartime. Counting industrial workers unemployed or employed on short time, workers engaged in dispensable government projects, and idle farm labor, we probably had the equivalent of twelve to fourteen millions of men available for war industries and military service. At the same time an enormous amount of idle land and capital equipment was available for the war effort.

Impairing Capital

As a second general means of liberating resources for war, it is possible to pounce on much of the capital which is ordinarily put into relatively durable production and consumption goods, including inventories. Normally our whole stock of capital of various kinds is not merely maintained and replaced at a given level but is extended by perhaps 3 to 4 per cent a year. In the period 1936-1940 our annual *gross* capital formation amounted to some \$15.6 billion, of which about \$9.1 billion went for maintenance and replacements and the remainder, \$6.5 billion, consisted of capital extensions, or *net* capital formation.³ On the whole, this period was marked by abnormally serious unemployment of our factors of production, with corresponding effects on the size of our national income. The ratio of capital extension to capital replacement was thus below normal. Under the comparatively full employment of wartime, it may reasonably be assumed that our annual national income will rise to about \$100 billion and our annual gross capital formation to around \$30 billion. In two ways much of this capital can be liberated from ordinary uses for the war effort.

CAPITAL EXTENSIONS

First, a great deal of the ordinary capital extension can be prevented. At a minimum, a stop can be put to outlays for new types of plant and equipment which are made largely because one producer is trying to keep up with competitors who are making similar outlays. At the maxi-

² See Chapters XIV and XV, above; also E. H. Chamberlain, *The Theory of Monopolistic Competition*, 1933, pp. 104-9.

³ See S. E. Harris, *The Economics of American Defense*, 1941, Chap. 5.

mum, a stop might be put to *all* ordinary capital extension—to all net investment in the forms of productive equipment, inventories, or durable consumption goods, being built up by either private or public enterprise for nonwar use. Assuming an annual national income of \$100 billion, \$10 billion or more a year might be released for war by the abridgement of ordinary capital extensions.

CAPITAL REPLACEMENTS

Second, much of our existing stock of ordinary capital can be consumed, either by diverting it directly to war use or by failing to replace it as it wears out. For example, a large part of all transportation facilities was pushed into war service in 1914–1918, and also maintenance was “deferred” by substituting makeshift repairs for replacements. Actually, much of our capital was consumed in the first half of the 1930’s, net capital formation being negative to the extent of probably \$8 billion to \$9 billion a year in the depth of the depression. As much as \$10 billion a year might be provided for war in this way. But of course such a measure could not be used indefinitely: it would amount to betting on a short war.

METHODS OF IMPAIRING CAPITAL

In 1917–1918 housing construction in the United States was reduced to half the prewar level, and from 1916 to 1918 it was cut down to 12 per cent of this level in Paris, to 6 per cent in leading German cities, and to 3 per cent in Vienna. The two leading methods by which this was done in our country are indicative of the methods by which we may expect ordinary capital in general to be impaired in the present conflict. First, money funds were shut off from the maintenance and extension of nonessential capital. A Capital Issues Committee, attached first to the Federal Reserve Board and later to the War Finance Corporation, determined the purposes for which securities could be sold. The sale of capital issues is not likely to be so important a form of private finance in our present war as it was in 1917–1918, since our industries now possess larger idle balances with which to finance their undertakings. However, several billion dollars a year might be liberated for war by the refusal of such institutions as insurance companies, savings banks, and commercial banks to finance the purchase of durable consumption goods. Second, the supply of materials which an industry could secure was made to depend on the relation of the industry to the war effort, the Priorities Committee of the War Industries Board shutting off supplies from nonessential uses.

With respect to the detachment of productive power from ordinary uses, the impairment of ordinary capital resembles the direct reduction of ordinary consumption. The former reduces ordinary consumption indirectly by curtailing facilities for the production of consumption goods, while the latter begins at the other end and reduces ordinary investment indirectly by curtailing the consumption of the products which it produces.

Reducing Consumption

In a prolonged war of exhaustion, not nearly enough war power will be liberated merely by increasing productivity and checking capital extensions for the production of ordinary commodities. As the colossal task goes forward, the main burden must fall on ordinary consumption. To bring this point home, let us begin with two comparatively optimistic assumptions: first, that we shall never have to devote more than half an annual national income of \$100 billion to the war; second, that we can secure as much as \$25 billion of resources for war by increasing productivity and curtailing capital extensions. As we cannot draw on neutral nations, which are poor and must also provide for their own defense, and as we can only shorten the war by devoting the largest possible part of our total resources to its prosecution, we are left with the necessity of liberating at least \$25 billion of resources by infringing on ordinary consumption.

"BUSINESS AS USUAL"

In a democracy, one of the foremost tasks is that of bringing the people to recognize the disagreeable fact that a "war of exhaustion" is just what the term implies: a contest in which the ultimate winner is the side which can bear the greatest sacrifice without reaching the point of exhaustion. There is a strong predisposition to "business as usual." Consumers are reluctant to reduce their purchases, and dealers to reduce their sales, of ordinary goods. The argument is advanced that the country cannot fight effectively if business is depressed, and that business will be depressed unless the customary commodities are bought in the customary amounts. The proposition that war is an unusual business, that we cannot eat our cake and have it too, is hard to grasp.

During the spring of 1918, when our third Liberty Loan was in progress, newspapers were still urging readers to "spend all you can afford."⁴ An article in *Leslie's Weekly* lauded the manufacture and sale

⁴ For details on the present illustrations and more like them, see Clark, Hamilton, and Moulton, *Readings in the Economics of War*, 1918, pp. 216-18.

of luxuries, declaring that this is the source of all surplus wealth. H. G. Selfridge, founder of the Selfridge department store in London, boasted that on August 4, 1914, the day England declared war, he increased the advertising space of his firm. The International Association of Rotary Clubs affirmed that "citizens render patriotic service in this situation who close their ears to propositions menacing the normal business conditions of the country." A New England syndicate paid damages for breach of contract rather than antagonize regular advertisers by continuing to run a government advertisement urging readers to economize. How hard this attitude dies was illustrated in the winter of 1939-1940 by the people of democratic France and England, who were still taking life much as usual on the very eve of the destruction of the one nation and the narrowest of escapes from the same fate by the other.

WHO SHALL ECONOMIZE?

How could the burden of reducing our annual consumption by some \$25 billion be distributed? To judge from an estimate which Harris⁵ bases on a National Resources Committee study, *Consumers' Expenditures in the United States*, this might be done as follows. Dividing our population into thirds, according to the sizes of their incomes, the NRC found that, in 1935-1936, when the national income was approximately \$60 billion and consumption expenditures were about 85 per cent of this amount, the lowest third did 14 per cent of our total consuming, the middle third 28 per cent of it, and the highest third 58 per cent. By reducing the per capita consumption of the top third to a level with that of the middle third, total consumption would be reduced about \$15 billion for an income of \$60 billion distributed as in 1935-1936, and it would be reduced \$20 billion to \$25 billion for an income of \$100 billion provided this income were distributed as was the lower income of 1935-1936. Since the proportion of national income directed to consumption tends to fall as this income rises, we can hardly expect total consumption to be reduced by as much as \$25 billion in this way. Such an economy will probably require a reduction of consumption not only in the top third but also in the middle third, and a still greater economy would doubtless require a reduction of consumption in the lowest third as well. Probably all of us except the very poor must economize, our sacrifices being governed by the "ability" principle of looking, not at what is taken away, but at what is left.

⁵ S. E. Harris, *The Economics of American Defense*, cited above, pp. 123-26.

VOLUNTARY VERSUS COMPULSORY REDUCTION

The economy in question cannot be effected by the voluntary method, that is, simply by patriotic appeals to citizens to economize in general and to economize this and that in particular. A war economy campaign commonly begins in this way in democratic countries, but it soon runs into trouble. For one thing, its local management tends to fall into the hands of persons whose social prestige is out of proportion to their administrative capacity. There is also a certain amount of selfishness, which is encouraged by the fact that the economies practiced by some persons tend to arrest price increases and therefore tempt other persons to follow the opposite policy. Moreover, there is much mutual distrust, each person tending to suspect others of not economizing as they should.

Especially difficult, in a voluntary program, would be the problem of educating consumers to a proper choice of personal economies. It is useless to economize the consumption of a product which can neither serve the war effort nor release productive power for this effort. For example, we need not refrain from using dwelling houses which are already built, although we should limit severely the construction of new ones. Or, to take another common illustration, suppose that you are giving employment to a young chauffeur and an old flower gardener. The former is potentially useful to the war effort, but you do not release war potential by discharging the latter. Although these cases seem simple enough, the problem of choosing among possible economies in general is too complicated to leave to a program of popular education. Assuming that we are willing to economize, and we deserve defeat if we are not, it is more effective to train a limited number of specialists and make their decisions binding. This brings us to the question of the forms which compulsory reduction of consumption may take.

DIRECT CURTAILMENT OF ORDINARY PRODUCTION

One method is the direct curtailment of the production of non-essential consumption goods. By shutting off raw materials or transportation from nonessential industries it is possible to divert not merely materials but also labor and other agents of production to war industries. An example is seen in the drastic limitation imposed on the production of automobile tires and pleasure automobiles early in 1942. Production may be curtailed by changing the character of certain products. Thus American materials were saved in the first World War by constructing packing cases of cheaper materials, by shortening the tops of shoes, by

abbreviating women's skirts. There was also adulteration, or "dilution." Early in 1918 our bakers were required to dilute "wheat flour" with twenty-five per cent of other cereal grains. The British controllers went further, giving their people a sort of near-beer for ale, shoddy for cloth, margarine for butter, and a mixture of meal, potatoes, etc., for bread. Further still went adulteration in Germany.⁶ "Bread," at one time composed of 55 per cent rye, 25 per cent wheat, and 20 per cent potato meal, together with a little fat and sugar, was diluted with corn, oats, barley, peas, and beans. "Cake" became a compound of horse-chestnut flour, ground clover seed, rice, chopped prunes, and a little sugar and honey. "Coffee" early came to consist largely of chicory; but, as the war wore on, barley and oats were substituted for chicory, then acorns and beech-nuts for barley and oats, then carrots and turnips for acorns and beech-nuts. Even "meat" was faked. Carried to these extremes, however, dilution is the symptom of defeat.

HIGH PRICES

A second possible form of compulsion consists in raising the prices of articles which it is sought to economize. Import duties, excise taxes, or outright minimum prices, may be used for the purpose. But there are serious objections to this policy. It is uncertain in its effect, since comparatively little is known about the elasticity of demand for various commodities, and since this elasticity may change as a result of the war situation itself. Thus, in the first World War, the British authorities overestimated the elasticity of demand for sugar and underestimated the elasticity of demand for beer, although in the latter case the dilution of the beer may have had much to do with the result. Moreover, the policy is very unfair where the personal distribution of income is highly uneven. The well-to-do tend to maintain their consumption by drawing on their savings, which, as we have seen, should be diverted to the war effort. Thus the tendency is for the burden to fall on the poor, with bad effects on morale and efficiency. In 1941 the British system of curtailing consumption was still marred by this defect. Some articles were rationed, but it was permissible to buy others, including important foodstuffs, in a free market. The result was to divert purchasing power to the uncontrolled articles and drive up their prices to the prejudice of the poorer buyers.

LIMITATION OF CIVILIAN BUYING POWER

Third, ordinary consumption may be reduced by curtailing the monetary purchasing power available for it. In the order of their severity, the

⁶ See, for example, G. A. Schreiner, *The Iron Ration*, 1918.

means by which this may be done are compulsory loans, such as those envisaged by the Keynes plan described in Chapter XXIX, taxes, and the direct limitation of personal incomes. Commendable though they are as equitable and noninflationary forms of war finance, these measures would not control adequately the consumption of *particular* commodities. That is, consumers would be permitted to distribute as they liked among different individual commodities whatever buying power they had left. Moreover, the well-to-do, who in practice would probably remain well-to-do in comparison with common laborers, would still be able to draw on savings for the purchase of consumption goods, with the unfortunate consequences sketched in the paragraph just above.

RATIONING

Fourth, ordinary consumption may be curtailed by either of two general forms of rationing, or by some combination of the two. One method would ration money expenditures. Thus, weekly expenditures might be limited to \$5.00 for each adult and \$3.00 for each child. The other method would ration the physical-volume purchases of specific commodities. Thus, the monthly per capita purchase of sugar might be limited, as in the United States during the first World War, to two pounds plus some specified amount for canning purposes. The first method, while preventing the prices of consumption goods in general from rising, would permit a more or less unpredictable concentration of purchases on particular commodities, and it might prove damaging to the poor for this reason. The second method, as we saw in Chapter XVII, would be complicated in its administration. Various combinations of the two methods are possible. For instance, total money expenditures might be limited, and then specific limits might be placed on either the money-volume or the physical-volume purchases of particularly scarce commodities.

CONSUMPTION ECONOMY, INFLATION, AND "PRICE CEILINGS"

Once the factors of production are fully employed, a condition which is rapidly and closely approached in wartime, increases of total money expenditures for products must raise the general level of prices. Further, increases of total money expenditures occur if the government stimulates the creation of checking-deposit money by borrowing heavily from the banks to finance its purchases. In order to prevent inflation, the authorities must either refrain from expanding the currency or else they must prevent the expenditure of the additional currency which is created. In the latter connection, let us consider briefly how "price ceilings," or maxi-

imum prices, are related to inflation and to consumption economy. Price ceilings may be either limited or general. The limited ceiling would set maximum limits for *some* prices, more especially the prices of goods urgently needed for the prosecution of war. Thus in 1941 our Office of Price Administration set maximum prices on certain strategic materials, predominantly metals. The general ceiling, on the other hand, would set upper limits for all individual prices. Such a ceiling has been defended by Mr. Baruch, who was chairman of our powerful War Industries Board during the first World War.⁷

As a means of controlling inflation, the limited price ceiling may hold down the money volume of government expenditures, thus limiting government borrowing from banks. But it does not prevent civilians from spending whatever additional money they receive on account of government expenditures. For this reason it does not economize civilian consumption. The fact that maximum prices are set on some commodities causes civilians merely to redistribute their expenditures, not to change the total. Suppose that in the "short run" the relative outputs of different products are not readjusted to the new relative quantities demanded at the new set of prices. Then consumers will spend less for controlled goods than they would spend at uncontrolled prices, and a corresponding amount of purchasing power will be used to drive up the prices of uncontrolled goods. At the same time it will be necessary to ration controlled goods, because the quantities demanded at the artificially low prices will be less than the quantities supplied. Next suppose that in the "long run" the relative outputs of different goods are readjusted to quantities demanded at the new relative prices. Then the distribution of expenditures between controlled and uncontrolled goods will depend on the elasticity of demand for controlled goods in general. However, it is hardly reasonable to expect that in time of war the amounts of controlled goods put at the disposal of civilian consumers will be increased substantially. In other words, the short run, as described above, is likely to be the long run as well.

Like the limited ceiling, the general ceiling tends to restrain inflation only in so far as it limits the government's expenditures and its borrowing from banks. It, too, fails to economize civilian consumption, since civilians buy as much as they can get at the maximum prices. It, too, necessitates rationing, since the quantities of goods demanded at the controlled prices will be greater than the quantities supplied.

A government which wishes to economize consumption and also to

⁷ B. M. Baruch, *American Industry in the War, 1941*, and *Taking the Profits Out of War*, 1936.

control an inflation which it has already encouraged might reasonably proceed somewhat as follows. First, it appropriates what it wants, leaving a corresponding scarcity of certain goods for civilians. (Priorities, or allocation, or the requisitioning of products, materials, and plants, may be used for this purpose. They all amount to "commandeering," or "conscription," of one degree or another.) Second, in order to distribute the remainder equitably among the civil population, it establishes rationing and sets maximum prices. The maximum prices not only protect the poor but also limit total money expenditures. Third, as a means of mopping up funds which rationing and maximum prices prevent civilians from spending, it imposes heavier taxes, introduces compulsory loans, and pushes its "voluntary" loans by resort to appeals which in fact contain an element of coercion. However, the third device, if used from the very outset of the war effort, might serve to prevent the inflation which it is later invoked to control.

The Transfer of Available Productive Power

Assuming that a large part of our total resources, perhaps half or more, can be spared from peacetime uses, how is the transfer of the liberated resources into war uses to be effected? As noted earlier, the liberation and the transfer may occur not only at the same time but also as the result of the same action. For example, the commandeering for war use of certain steel has the double result of curtailing the ordinary consumption of steel and transferring the steel to war consumption. Consequently the present discussion amounts to looking at earlier material from a somewhat new point of view. In order to avoid needless repetition, it is limited to brief consideration of two things: first, the choice between voluntary and coercive methods of transfer; second, the administrative machinery of transfer.

VOLUNTARY VERSUS COERCIVE TRANSFER

Of course no sharp line can be drawn between what we do voluntarily and what we are forced to do. That the difference is one of degree may be illustrated by the induction of men into the army. In 1915 the British authorities, before they adopted military conscription, provided special badges to be worn by men whom they wished to keep in industrial occupations of high strategic importance; and at the same time young ladies stalked about public places, conspicuously offering white feathers to healthy-looking men who lacked the redeeming badges. Under these circumstances many of the badgeless decided to "volunteer" for the

armed force. On the other hand, most of the men who were later drafted did not feel that they were serving their country against their will.

Nevertheless, not all methods of transferring available resources to the war effort are equally coercive. Between government "competition" for war resources and government "commandeering" of such resources there is a difference in the degree of coercion which may be described as follows. Under the former method the government goes into the open market with a huge amount of purchasing power and competes for what it wants. To illustrate, it asks the clothing manufacturer what he will take to produce army uniforms instead of civilian clothes, and then it offers prices attractive enough to secure the required output of the uniforms. Under the latter of the two methods, however, the government tells the manufacturer to produce certain uniforms and informs him what he will get for doing so. If he resists, it may requisition his facilities and send him to jail. Of course commandeering may be and usually is less vulgar in its methods. Take the case where the government limits the automobile industry to a low maximum production of pleasure cars, allocates to other products the materials which can no longer be used in this industry, and fixes maximum prices on the other products in question. This may not be government requisitioning and operation of the automobile industry, but it is essentially commandeering.

For purposes of a big and expensive war the voluntary method has fatal shortcomings. It is uncertain in its operation. Businessmen, despite the obvious dangers of trying to avoid the production of the commodities desired by a purchaser possessed of enormous buying power, remain more or less hesitant to embark on war business. The conversion or enlargement of their plants for war production would be costly, and they do not know how long the government demand will last. The government, in order to overcome this hesitancy, must pay profiteering prices for what it wants. The unfortunate consequences of such a policy have been described in Chapter XVII. What we may reasonably expect, therefore, as our present war goes on, is a wider and wider application of the principle of commandeering.

THE ADMINISTRATIVE MACHINERY

In 1917-1918 the economy of the United States assumed a remarkable similarity to that which is normal in the totalitarian states of today. As a means of determining what should be produced and of fixing the rewards of different participants in production, government authority largely displaced prices and rates of return worked out under private initiative. At

the center of authoritative control stood the War Industries Board, empowered to determine and enforce priorities and to fix prices.

In this situation the position of "the businessman" may be illustrated as follows. A Capital Issues Committee, with which the Investment Bankers Association and the American Bankers Association cooperated, told him for what purposes he could or could not issue securities. Where government loans absorbed so much credit that he found it difficult to borrow at reasonable rates for business compatible with the war effort, the War Finance Corporation undertook to accommodate him. The Priorities Committee of the War Industries Board prevented him from getting materials or transportation for nonessential purposes. The Price Fixing Committee of this Board—or perhaps the Food Administration or the Fuel Administration—determined the prices at which he sold to the government, and, frequently, the prices at which he sold to civilians. That the Board might deal with him the more conveniently, he must belong to the national trade association of his industry, the Board sometimes arranging for the creation of associations. In some cases the Board licensed him to do business, and could revoke his license and requisition his plant if he did not behave. In order to export or import, he secured a license from the War Trade Board and observed its rules. His labor policies were determined by the War Labor Policies Board and carried into effect by the National War Labor Board working through sub-boards for investigation, conciliation, arbitration, and the like.

The government also went into business on its own account. Its War Finance Corporation brought it into competition with private bankers. Through its War Shipping Board and its Emergency Fleet Corporation it took over, bought, or built ships and shipbuilding facilities and participated in the operation of the shipping industry. It handled grain through the Grain Corporation of the Food Administration, and it controlled the sugar business through its Sugar Equalization Board. Its War Risk Insurance put it into the insurance field on an enormous scale. Thus the businessman was largely stripped of opportunity for private initiative, and what income the controls left to him was of course subject to brutal taxation.

During the Great Depression of the 1930's some of these controls were more or less closely simulated in such forms as the National Recovery Administration, the Agricultural Adjustment Administration, the Reconstruction Finance Corporation, the Public Works Administration, and the National Labor Relations Board. Nevertheless, at the time of Japan's sneak attack on Pearl Harbor, although we had been preparing

for war for a year and a half, government control of our economy was much less sweeping and centralized than in 1918. Indeed, this control was loose, overlapping, and confused, with different governmental agencies competing for jurisdiction and lacking power to decide and enforce their decisions. Control over allocation was shared by the Office of Price Administration, the Office of Production Management, the Army, and the Navy. Control of production was divided between OPM, the Army, the Navy, and the Maritime Commission; the control of credit, between the Federal Reserve System, the Treasury, the Reconstruction Finance Corporation, and the Lend-Lease Administration. In the control of wages and working conditions the National Labor Relations Board, the Wages and Hours Administration, the Conciliation Service, and the Mediation Board all had a hand. Control of foreign trade, although centering in the Economic Defense Board, was subdivided between such authorities as the Export Control Administration, the Maritime Commission, the Treasury department, the State department, and the Co-ordinator of Inter-american Affairs. What is to be expected, as our war effort progresses, is a much greater development of government authority and a much more definite fixing of responsibility. The creation, in January, 1942, of the War Production Board is a case in point.

Conclusion

"The political economy of war," declared a noted British economist during the first World War, "might well be regarded as a contradiction of terms. Political economy suggests an orderly state of things in which the different members of the societary 'household' co-operate in peace, while war is the active manifestation of the anarchy which the human race persists in maintaining by its blind folly in continuing the existence of absolutely sovereign states recognizing no common authority."⁸ And an equally famous British economist has observed during the present war: "Now again in 1939 the world is tearing itself to pieces, and the political economy of war becomes a matter of living interest."⁹ As far as the interests of all mankind are concerned, a truthful chapter on the "economics" of war would be like the legendary essay on "Snakes in Iceland," which was a blank piece of paper representing the total absence of snakes from Iceland. If our present alternative to war were still the international co-operation which might have been attained in the last two decades, certainly there would be no economy in our war. But

⁸ Edwin Cannan, *An Economist's Protest*. London: P. S. King & Son, Ltd., 1927, pp. 50-51.

⁹ A. C. Pigou, *The Political Economy of War*. New York: The Macmillan Company, 1941, p. 3.

today those decades are wasted and gone, and now we must first fight for our national existence in order to secure another chance to co-operate with other nations in ending the blind folly of absolute national sovereignty.

PROBLEMS

1. Briefly explain and illustrate the difference between war potential and war power.
2. Discuss the attitude of "business as usual" in relation to our present war effort.
3. Discuss the relations between "liberating" resources for war and "transferring" resources to war uses. In what general ways may resources be liberated? In what general ways transferred?
4. Are you expecting ordinary consumption to be reduced sharply in the United States? Explain carefully, indicating and analyzing the alternative methods of releasing resources for war.
5. Do you think it possible to effect the required reduction of ordinary consumption in the United States without substantially reducing the consumption of persons of moderate or low incomes? Defend your position with argument.
6. Discuss the comparative merits of voluntary and coercive reduction of ordinary consumption. Of different forms of coercive reduction.
7. Discuss "price ceilings" as a means of curbing inflation, and as a means of limiting ordinary consumption.
8. Which do you anticipate, the "voluntary" transfer or the "coercive" transfer of resources to war uses in the United States? Explain, illustrating the difference between the two, comparing their merits, and indicating the probable character of the administrative machinery for coercive transfer.
9. "The 'economics' of war is a contradiction of terms." Discuss.

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